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Review Article

Case Report

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Editorial

Değerli Meslektaşlarım,

Mana yüklü sözleri ve düşünceleriyle tüm insanlığa ışık tutan büyük düşünür **Mevlâna Celâleddin-i Rumi**'nin17 Aralık Şeb-i Arus'ununarefesinde, tüm dünyanın Covid-19 salgınıyla boğuştuğu, bedenen birbirlerinden uzaklaşıp mesafe koyduğu ama O'nun öğretilerindeki gibi gönülden yaklaştığı, hem iklimsel yönden hem de salgınla ilişkili klinik durumlar haricindeki bilimsel çalışmalar açısından kurak sayılabilecek bu zorgünlerde, değişik yerlerden akademisyenlerimizin büyük bir özveri ile hazırlayıp gönderdiği değerli çalışmaları sizlerle paylaşmanın mutluluğunu yaşıyoruz.

Dergimizin bu sayısı yine dopdolu. Pnömoni hastalarında prognostik skorlamalarla prokalsitonin ilişkisi, gastrointestinal kanamalarda tam kan parametrelerinde spesifik değişimler, epileptik hastalarda kan laktat değerleri öne çıkan araştırma yazıları.Boğaz ağrısı ve ateşle gelen ilginç bir genç olgu ile beraber intestinal obstrüksiyonun nadir bir nedeni ile masif hemotoraksla gelen intraabdominal kanamanın ele alındığı olguların yanı sıra hepatik portal vende gaz ve kaptoril ilişkili anjioödem dikkatle okuyacağınız olgular. Pulmoneremboli ilişkili kardiyopulmoner arrest ve resüsitasyonda trombolitik tedavi uygulanan bir olguda yine dergimizin bu sayısında ilgi çekici mahiyette.

Dergimizin yayına hazırlanmasında emeği geçen editör kuruluna, yazı işlerine, eserlerini gönderen değerli yazarlarımıza teşekkür ederiz. Covid salgını nedeniyle savaşla mücadelede hayatını kaybeden değerli meslektaşlarımızı rahmetle anıyor, hastalık sürecindekilere şifalar diliyor, dergimizin bu sayısını tüm kahramanlarımıza atfediyoruz,

Sağlıkla Kalın
Prof. Dr. Mehmet Gül

Dear Colleagues,

The great thinker who sheds light on all humanity with his meaningful words and thoughts. On the eve of Mevlâna Celâleddin-i Rumi Şeb-i Arus on December 17, he struggled with the Covid-19 epidemic, physically moved away from each other and kept a distance but, as in his teachings, he approached from the heart, both climatic and arid in terms of scientific studies other than clinical situations associated with the epidemic. In these difficult days that can be counted, our academicians from different places have a great the happiness of sharing with you the valuable works he prepared and sent devotedly we are living.

This issue of our magazine is still full. Prognostic in pneumonia patients Procalcitonin relationship with scores, whole blood in gastrointestinal bleeding specific changes in the parameters, blood lactate levels in epileptic patients research articles. With an interesting young case with sore throat and fever with massive hemothorax, a rare cause of intestinal obstruction. In addition to cases where intra-abdominal bleeding has been handled, gas in the hepatic portal vein and captopril-associated angioedema cases you will read carefully. Pulmonary embolism associated with a patient who underwent thrombolytic therapy in cardiopulmonary arrest and resuscitation. Again, this issue of our magazine is interesting.

To the editorial board who contributed to the preparation of our journal for publication, to editorial works, Thank you to our valuable writers who submitted their works. Due to the Covid outbreak. It commemorates our valuable colleagues who lost their lives in the fight against war, He wishes healing to those in the disease process, we send this issue of our magazine to all the heroes we attribute,

Stay Healthy
Prof. Dr. Mehmet Gül

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Relationship Of The Procalcitonin Level on Admission With CURB-65 and SMART-COP Scores In Hospitalized Patients With Pneumonia

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Abstract

Study Objectives Know the result of disease severity and clinical results in community-acquired pneumonia (CAP) are preconditions for treatment options and management for health care resources. Various scoring systems as CURB-65 and SMART-COP have been developed to facilitate these awareness. We aimed to investigate the relationship between these two scoring systems with procalcitonin level in the diagnosis of CAP. Methods Study included hospitalized patients diagnosis CAP that had been admitted to the emergency department between 01.01.2015 - 12.31.2015. CURB-65 and SMART-COP scores were calculated. We collected measured procalcitonin levels. As described previously during the study, patients who had 2 and over values for CURB-65 and who had values 3 or more for SMART-COP were classified as high risk and groupings were structured according to these values. Results The study was conducted on a total of 124 cases. 72 of the cases had a CURB-65 score of 2 or more and 49 of the cases had a SMART-COP score of 3 or above. The cases' procalcitonin levels which had 2 ng/ml or above scores for CURB-65 had higher statistical significance than the cases that had 2 or less scores for CURB-65 (P: 0,004; p<0,05). The cases' procalcitonin levels that had 3 or above scores for SMART-COP had higher statistical significance than the cases which had 2 or less scores for SMART-COP (p: 0,001; p<0,05). Conclusions High procalcitonin levels were associated with the patients who had high scores in both scoring systems, and had a relationship with the severity and course of the disease.

Keywords: Curb-65, Procalcitonin, Smart-Cop Score

Introduction

Parallel to the current social circumstances, improved quality of life and advances in medicine, the mean survival has been extended and a related increase has been observed in the percentage of the elderly population, especially in developed countries[1]. Thus, diseases of the elderly population have gained additional importance. Pneumonia is one of these diseases and is more frequent in individuals of 65 years of age or over[2,3].

Community-acquired pneumonia (CAP) is observed during daily life. Its annual incidence has been reported as 0.5-1.1% in Europe[3]. CAPs are common diseases that are frequently observed in adult patients and is an important cause of mortality[4]. Presence of symptoms, physical examination findings and presence of infiltrates in pulmonary radiographs are sufficient for the diagnosis[5].

Prediction of the severity of the disease and clinical outcomes in CAP are the pre-conditions in the management of health sources and for the costs of the treatment. Therefore, the prediction rules were changed in the mortality risk prediction-based classification for patients with CAP[6]. The classification includes CURB-65 and SMART-COP as well. The British Thoracic Society has built up a classification system called CURB (confusion, uremia, respiration count and arterial blood pressure)[7]. Lim et al. have added age to this classification in 2003 and developed a new classification called CURB-65[8]. The SMART-COP scoring system was first developed and approved in non-trophic Australia. This system is still being recommended to evaluate the risk of pneumonia in the Australian National Clinics Guidelines[9].

S. pneumoniae has been known as the responsible microorganism for TGP in 9-36% of the patients[10]. In approximately 60% of the patients hospitalized due to pneumonia, bacteria are the agents for the disease[11]. Acute phase reactants and inflammatory cytokines are being used as potential indicators for the detection of the severity of the disease and diagnosis of multiple organ failure[12]. One of these indicators are procalcitonin (PCT). Serum PCT level has been demonstrated to increase with the increase in the severity of infection in bacterial infections[13]. Although the PCT levels significantly increase with bacterial infections, no increase is observed with non-bacterial factors such as collagen tissue diseases or viral infections[14]. Its use is indicated especially in elderly patients with non-significant symptoms and those who are not suitable for invasive tests due to the rapid increase observed in early infection, simple sampling, simple and rapid reporting[15].

The aim of this study was to investigate the relationship between the procalcitonin levels on admission and clinical scoring systems.

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Materials And Method

Study design and setting

This retrospective cross-sectional study was carried out on patients hospitalized due to CAP in the Internal Medicine Department among those who had presented to the emergency between 01/01/2015 and 31/12/2015. In our ED, patients admitted because of CAP are directed from triage room to yellow or red zones. Approximately 100.000 patients per year are admitted in the yellow and red zones of our ED and all these patients are examined by an emergency physician. This study was conducted after obtaining local ethic committee approval.

Selection of participants and Data collection

The patients included in the study were over 18 years of age and those who were diagnosed to have CAP via clinical and laboratory findings, and patients whose procalcitonin level was measured in the emergency unit or Internal Medicine Department prior to the treatment. Those with a recent pulmonary infiltration according to pulmonary X-rays or thoracic tomography accompanied by symptoms suggestive of acute lower respiratory tract infection were diagnosed as pneumonia. Patients hospitalized within the previous 14 days, pregnant women, patients younger than 18 years of age and those with the diagnosis of pulmonary tuberculosis, were excluded from the study.

According to these data, the CURB-65 and SMART-COP scores of the patients hospitalized were calculated. In accordance with the SMART-COP measurements, patients with a partial oxygen pressure of 70 mmHg and below 50 years of age, and those with a partial oxygen pressure of 60 mmHg and over 50 years of age, were accepted as hypoxic.

Patients with a CURB-65 score of 2 or more, and those with a SMART-COP score of 3 or higher were classified as the risk group as mentioned in the literature, and the grouping was made upon this risk group[8,9]. Subsequently, the patients were grouped as those with and without risk, and compared according to their PCT values. Normal range of pracalcitonin was less than 0.05 ng/ml.

Table 1. Distribution of the CURB-65 and SMART-COP scores.

CURB-65	n	%
<2	52	41.9
≥2	72	58.1
SMART-COP		
<3	75	60.5
≥3	49	39.5

Outcome measures

Primary outcome measure was the relationship between serum procalcitonin concentration and CURB-65 and SMART-COP scores. Secondary outcome measure was the relationship between serum lactate concentration and the severity and progression of the disease.

Statistical analysis

Compliance of the parameters to the normal distribution was calculated using the Shapiro Wilks test. Descriptive statistics methods were used (mean, standard deviation, frequency) and the Mann Whitney U test was used for comparison of the qualitative data. The Chi-square test was used for the quantitative data. The Spearman's rho correlation analysis was used for analysis of the relationship between the qualitative data. The ROC analysis was used for cut-off level detection. A p value of <0,05 was accepted as statistically significant. Computer analysis was performed using SPSS version 22.0 software (SPSS, Inc., Chicago, IL, USA).

Results

A total of 124 cases were included in the study; among these, 62 were male (50%) and 62 were female (50%). The

Table 2. PCT evaluation according to the CURB-65 and the SMART-COP scores.

CURB-65	Min-Max	Mean±SD	Median	P
<2	0.02-58,92	1.98±8.48	0.14	0,004*
≥2	0.03-35.82	1.65±4.54	0.41	
SMART-COP				
<3	0.03-35.82	1.35±4.75	0.14	0,001*
≥3	0.02-58.92	2.47±8,46	0.63	

Mann Whitney U Test * p<0,05

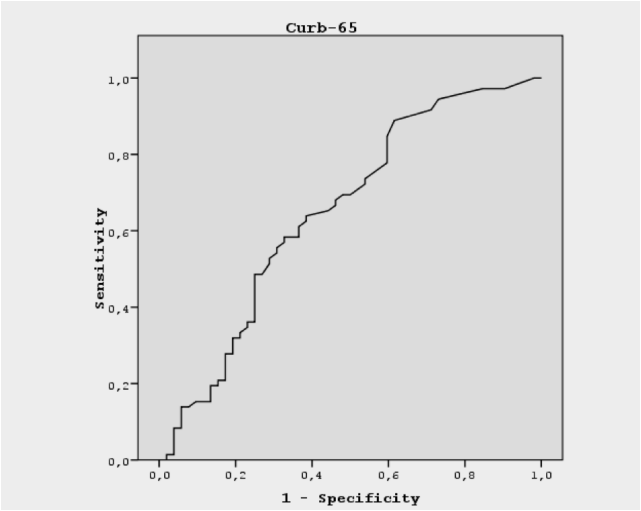

Figure 1. The ROC curve for procalcitonin according to the CURB-65 score. The area under the ROC curve was found to be statistically significantly higher than 0.5 (p<0,01) (AUC:0.651, p:0,003, p<0,05).

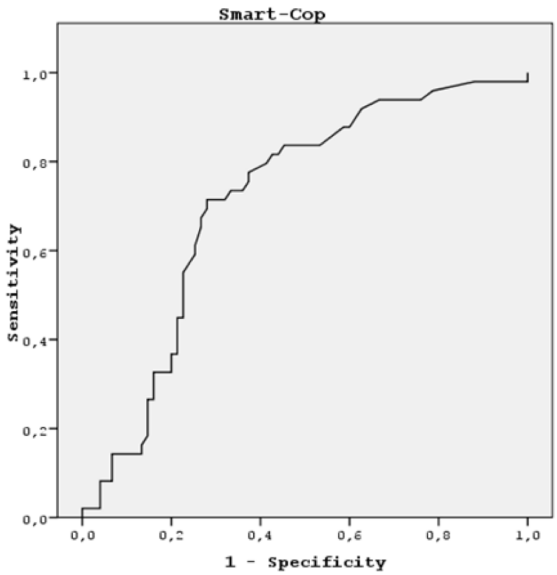

Figure 2. The ROC curve for procalcitonin according to the SMART-COP score. The area under the ROC curve was found to be statistically significantly higher than 0.5 (p<0,01) (AUC:0.713, p:0,000, p<0,05).

ages of the subjects were between 21 and 93 years old, and the mean age was 73.81±12.70. PCT on admission varied between 0.02 ng/ml and 58.92 ng/ml; the mean value was 1.79±6.46 ng/ml, and the median value was 0.26 ng/ml.

The CURB-65 scores of patients with pneumonia varied between 0 and 3, the mean value was 1.61±0.81, and the median value was 2. The SMART-COP scores mean value was 2.09±1.71, and the median value was 2 (Table 1).

CURB-65 was 2 or higher in 72 of the patients (58.1%), and the SMART-COP score was 3 or higher in 49 (39.5%) (Table 2).

The PCT levels of patients with a CURB-65 score of 2 or higher were significantly higher compared to those with a CURB-65 score lower than 2 (p:0,004; p<0,05).

The PCT levels of patients with a SMART-COP score of 3 or higher were significantly higher compared to those with a SMART-COP score lower than 3 (p:0,001; p<0,05).

The cut-off level determined for PCT according to the CURB-65 score was 0.08 ng/ml. Sensitivity and specificity at this level were found to be 88.89% (79.3-95.1) and 38.46% (25.3-53), respectively (Figure 1).

The cut-off level determined for PCT according to the SMART-COP score was 0.32 ng/ml. Sensitivity and specificity at this level were found to be 71.43% (56.7-83.4) and 72% (60.4-81.8), respectively (Figure 2).

No significant correlation was determined between CURB-65 and SMART-COP (p:0,001; p<0,05). Among patients with a CURB-65 score of 2 or higher, 52.8% had a SMART-COP score of 3 or higher (Table 3).

Table 3. Relationship between CURB-65 and the SMART-COP scores.

	CURB-65		
SMART-COP	**<2**	**≥2**	**P**
	n (%)	**n (%)**	
<3	41 (%78.8)	34 (%47.2)	0,001*
≥3	11 (%21.2)	38 (%52.8)	

Chi-square test * p<0,05

Discussion

Classification methods evaluating the severity of CAP have been developed in order to reduce the hospitalization rates due to this disease. Many studies have compared these scoring systems. Some authors have mentioned that there is no difference between the scoring systems in the evaluation of disease severity or mortality[16]. On the other hand, there are studies suggesting more and less powerful aspects of each method[17]. These findings have resulted in the belief that additional risk factors and prognostic indicators are needed to increase the prognostic performance of the present risk scores[6]. In our study, we aimed to investigate whether PCT could be used as a helper indicator to these scoring systems or not.

Among our patients, CURB-65 was 2 or higher in 58.1% and SMART-COP was 3 or higher in 39.5%. The higher number of patients at risk observed according to the CURB-65 scores was probably due to the selecting criteria in our study, which included hospitalized patients. The CURB-65 scoring system has been designed for patients to recieve therapy at home or in the hospital, whereas the SMART-COP scoring system has been designed for detection of

patients who require intensive respiratory and vasopressor support in the context of ACAPS[9].

Many cytokines and biomarkers have been studied worldwide in order to determine the severity of pneumonia. Among these, CRP and PCT had the widest investigation and approval. PCT was especially studied in order to determine the suitability of patients with pneumonia for antibiotherapy or not[18]. In the study of Viasus et al., the mortality prediction of patients with pneumonia was observed to be more significant when the pneumonia severity index (PSI) and the CURB-65 scores were combined with PCT[19]. In the study of Naderi et al., the PCT levels were determined to be higher in parients with CURB-65≥3 and SMART-COP≥3[20]. The median PCT level was observed to be higher in patients with high PSI in the study of Johansson et al.[21]. In our study, the PCT levels were found to be significantly higher in patients with CURB-65≥2 and SMART-COP≥2 (p:0.004 and p:0.001, respectively). The positive correlation of these two scoring systems with the PCT level is compatible with previous findings (p:0.001 and p:0.001, respectively).

It has been demonstrated in the study of Julian-Jimenez et al. that the rates of hospitalization and duration of hospital stay were reduced when PCT > 1 ng/ml was used as an additional score to the PSI scoring[22]. The study of Karen et al. revealed that patients with SMART-COP≥3 had high sensitivity and specificity for intensive respiratory and vasopressor support[23]. In the light of these findings, we determined a cut-off value for CURB-65 and SMART-COP in our study. The sensitivity and specificity of patients with a PCT value of 0.08 ng/ml or higher for CURB-65≥2 were 88.89% and 38.46% (AUC 0.651; p:0.003; CI: 79.3-95.1 and CI: 25.3-53, respectively), and those with a PCT value of 0.32 ng/ml or higher for SMART-COP≥3 were 71.43% and 72% (AUC 0.713; p 0.000; CI: 56.7-83.4 and CI: 60.4-81.8, respectively). However, in the meta-analysis of Liu et al., the sensitivity of the frequently used PCT value, 0.5 ng/mL, was observed to be 44%[21-66], and that this level could not be accepted as a high risk value for mortality[24]. These data suggest that, although the high PCT values observed in patients were directly related to hospitalization and prognosis, further studies are needed to determine a cut-off value including larger sample sizes.

Limitations

Our study is retrospective, the data were obtained from the information technologies department of the hospital and epicrises.

The diagnosis of hospitalization of patients is not confirmed by cultures.

Variable discharge processes due to the procedures of the units.

Conclusion

High PCT levels were related to high CURB-65 and SMART-COP scores and they were probably related to the severity and progression of the disease.

PCT may be used as an additional parameter in both scoring systems used for the hospitalization and acceptance to the intensive care unit in patients with community-acquired pneumonia.

However, we believe that the significant findings observed in our study should be supported by further studies, since we did not find any other study comparing both scoring systems in the literature.

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Review Article
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Evaluation of WBC, RDW and MPV Rates in the First Blood of Patients Admitted to the Emergency Department with Gastrointestinal System Bleeding

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Abstract

Gastrointestinal system (GI) bleeding is emergency intervention required situation and important problem due to mortality, morbidity and hospitalization costs[1]. Despite the progress in diagnosis and treatment,upper GI bleeding has 2-10% mortality rate, thus since 1960, desired improvement could not be achieved[1,2]. Therefore, evaluation, diagnosis and treatment approaches of patients with upper GI-bleeding have a special importance. The severity ranges covers between; subclinical hidden bleeding to occult bleeding, from chronic anemia to acute hypovolemic shock[3]. White blood cells, also known as leukocytes (WBC), are immune system fighters and migrate to the side of all kinds of infections and inflammation.They are the main cells that cause inflammation. Leukocyte count (WBC): 4,500 to 10000 cells / mcL. Average Platelet volume (MPV) is the laboratory finding which shows platelet activation. It is one of the simple subclinical inflammation marker. A red cell distribution width (RDW)reflecting the variability in the size of circulating erythrocytes and is often used as indicator for the diagnosis of anemia(4). However, systemic inflammations, chronic nutritional disorders, ineffective erythropoiesis diagnosis and in bone marrow dysfunction RDW values may also increase[5]. In our study, retrospectively, between January 2020-March 2020, patients with Gastrointestinal system (GI) bleeding as the primary diagnosis,the age range between 18-75 years old and whose blood hemograms were studied were included. WBC, RDW and MPV values are proportioned.

Keywords: Bleeding, Emergency, Gastrointestinal

Introduction

Gastrointestinal system (GIS) bleeding is a group of diseases that are characterized by blood loss at one point of the digestive system and can result in death if not intervened. GIS bleeding constitutes an important part of admissions to the emergency department. Acute upper gastrointestinal bleeding is one of the most common causes of mortality and morbidity. They can apply to the emergency department with clinical pictures ranging from massive bleeding that can cause shock and death to occult bleeding that causes iron deficiency anemia through chronic blood loss.

Since patients with severe upper gastrointestinal bleeding frequently present to the emergency services, timely detection, and emergency intervention of these patients are important. Especially in patients admitted to the hospital with upper GIS bleeding, determining the risks in the triage stage will affect the clinical course of the disease. Since these patients are often the patients that require an urgent decision to direct their diagnosis and treatment, determining the risks will also enable the clinician to reach the right decisions in a short time. Most of these patients require hospitalization. The prolongation of the patient's stay causes negative consequences both in terms of prognostic and economics.

Risk factors of upper gastrointestinal bleeding include advanced age, chronic renal failure, and chronic liver disease, coexisting diseases such as peptic ulcer, history of previous surgical intervention, a presentation with hematemesis, development of hypotension, history of esophageal varicose bleeding, nonsteroidal anti-inflammatory drugs, steroid drugs, anticoagulants. drug use, smoking and alcohol habits, and lifestyle. The mortality rate is closely related to age. Such that, while the mortality rate is 8% under the age of 60, this rate rises to 13% above the age of 60[1]. Its annual incidence is 80 to 170 per 100,000, and it is an important problem due to high mortality, morbidity, and hospitalization costs. It is classified as upper or lower GIS bleeding depending on where it originates. Upper GIS bleeding originates from the proximal of the Treitz ligament, while the term Lower GIS bleeding is used for bleeding from the distal of this level[2,3].

The severity of bleeding; It covers a broad spectrum that can range from subclinical occult bleeding to abnormal bleeding, from chronic anemia to acute hypovolemic shock. Despite all the advances in diagnosis and treatment attempts, the desired improvement has not been achieved in the 2-10% mortality of upper GIS bleeding since 1960. Therefore, evaluation, diagnosis, and treatment approaches of patients with upper GIS bleeding in the emergency department have special importance[1,4]. Often the bleeding stops spontaneously. In cases where bleeding continues, hemostasis can be achieved with endoscopic treatment. Risky

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cases with hemodynamic stability and bleeding control or recurrent bleeding are candidates for surgery.

In this disease group, which is characterized by blood loss, the most important analysis in evaluating both the severity of the disease, the follow-up process and the response to the treatment is the hemogram examination, which evaluates the number, ratio and distribution of erythrocytes, leukocytes and platelets in the blood.

Method

Archive records of patients between the ages of 18 and 75 who applied to the Emergency Medicine Clinic of Istanbul Health Sciences University Kanuni Sultan Süleyman Training and Research Hospital between January 2020 and March 2020 were examined, and patients with a primary diagnosis of gastrointestinal bleeding and a demogram test were included in our study. WBC, RDW and MPV values in the hemograms of these patients were examined.

Results

Of the 100 patients whose results were evaluated, 39% were women and 61% were men. The mean age was 55.9 (SD ± 20.30), and the mean age of women was 60.23 (SD ± 20.50), and the mean age of men was 53.27 (SD ± 19.87) (Table 1). The mean WBC of these 100 patients was 9.99 (SD ± 3.92), the mean MPV was 10.67 (SD ± 1.09), and the mean RDW was 15.59 (SD ± 3.86) (Table 2). It was not possible to evaluate endoscopic parameters because endoscopy could not be performed on all patients in our study.

Discussion

White blood cells (WBC), also known as leukocytes, which are the main cells that cause inflammation, are soldiers of the immune system and go to the area needed to fight any kind of infection and inflammation. Their number is 4,500 to 10000 cells/mcL. Again, the mean volume of platelets (MPV), whose primary task is clot formation but reacts sensitive to inflammation, is also a laboratory finding that shows platelet activation by stimulation of the bone marrow and is one of the simple markers that indicate subclinical inflammation. Red cell distribution width (RDW) is a marker that reflects the variability of the size of circulating erythrocytes and is generally used in the diagnosis of anemia. However, an increase in systemic inflammations, chronic nutritional disorders, diagnosis of infectif eritropoiesis and bone marrow dysfunction may be observed[5].

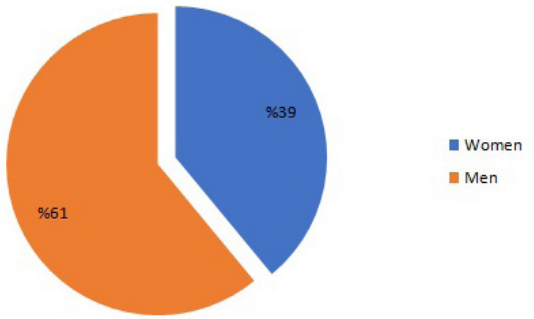

Table 1: Distribution of patients by gender

In the study conducted by Berrios et al.[6], the frequency of GIS bleeding was found to be 98% in men, and it was found that most of these men (38%) were between the ages of 30-40. The male / female ratio is 2.19/1 in the study of Fleischer et al.[7]; 2,4/1 in the study of Paspatis et al.[8]; It was found to be 1.7/1 in the study of Zaltman et al.[9]. Cander et al. In his GIS bleeding study[10], the male / female ratio was found to be 2, the average age of male patients was 61.60, and the average age of female patients was 63.90, and it was found to be consistent with the literature ($p < 0.05$). The male / female ratio in our study was 1.56/1; The average age of male patients was 53.27, and the average age of female patients was 60.23. As seen in the literature and other studies, the risk of GIS bleeding in the male gender was found to be significantly ($p < 0.05$) high.

Cander et al.[10], mean leukocyte values were 11.06 ± 4.06 k/uL and mean CRP values were 35.77 ± 26.56 mg/L. The mean hospitalization period of these patients was found to be 6.40 ± 6.17 days. The most common endoscopic findings in women presenting with upper GIS bleeding were detected as 70% stage 3, 20% stage 1b, and 10% stage 1a according to the Forrest endoscopic classification. There was no significant correlation ($p < 0.05$) between the hospitalization time of the patients and endoscopy results, leukocyte and CRP values.

Acute upper gastrointestinal system bleeding is a medical emergency with mortality ranging between 5-15%[11].

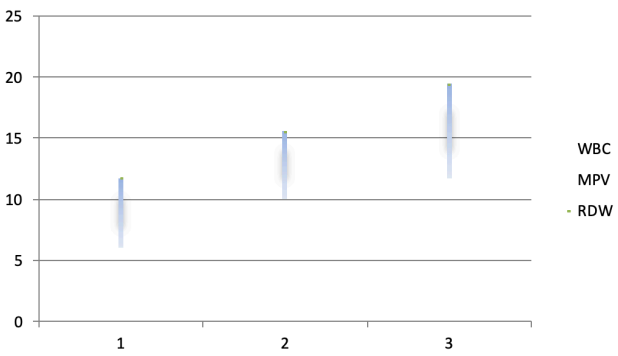

Table 2: WBC, MPV, RDW means of patients

Endoscopy is the most important process of diagnosis and treatment. Endoscopy complications are almost zero and it is a method that mostly saves patients from surgery. It is stated that 47% of patients with upper GIS bleeding need urgent endoscopy. In addition to medical treatment in upper GIS bleeding, therapeutic endoscopy is of great importance, especially in the treatment of bleeding peptic ulcers[12].

Patients with GIS bleeding require an urgent decision for their treatment after the examination. For this purpose, low and high-risk patients should be determined for mortality and re-bleeding. Many risk scoring systems have been developed that can easily be applied by the emergency clinician and can direct the treatment of patients. Patients with low risk of re-bleeding will be identified, after stabilization, they can be safely discharged in the early period and their follow-up and treatment can be continued on an outpatient basis. In this way; Both emergency clinics, beds and staff, which are already busy, will not be occupied unnecessarily, and treatment costs will be reduced. Also, better care will be provided to high-risk patients who need serious care[13].

Okutur et al. In their study[14], 164 (71.3%) of 230 patients were male and 66 (28.7%) were female. The male/ female ratio is 2.48/1. The mean age of the patients was 52.4 ± 19.4 years and ranged between 15-90 years. Looking at the age distribution, 5.3% of the patients were under 20 years old, 23.9% were between 21-40 years old, 34.3% were between 41-60 years old, and 36.3% were over 60 years old. For the admission to the emergency department, 17% of the patients came with hematemesis, 37.8% with hematemesis + melena, and 45.2% with melena. 74 patients (31.8%) had a history of previous upper GIS bleeding, 23 patients (10%) had a history of previous GIS operation. The duration of stay in the ward was 6.6 ± 4.1 days. Duration of hospital stay was significantly longer in patients with esophageal varices on endoscopy ($p < 0.05$).

40% of the patients (n = 91) had at least one comorbid disease and hypertension (46.2%) and diabetes mellitus (22%) were the leading ones. When the presence of additional disease was evaluated, 40% of the patients had at least 1 additional disease and the most common additional diseases were diabetes mellitus and hypertension. Being over 60 years of age in GIS bleeding, presenting with hematemesis and the presence of additional disease increase the mortality significantly ($p < 0.05$). While 92.6% of the patients were discharged with medical treatment, 5.7% of them were lost. As a matter of fact, 9 of the 13 patients who died were over 60 years old and had additional diseases, and 10 of them applied to the emergency service with hematemesis.

126 patients (54.8%) had at least one drug use. NSAIDs ranked first with 96.8% (n = 122), followed by warfarin 7.1% (n = 9), heparin 1.6% (n = 2) and steroid 1.6% (n = 2). The most common drug that causes gastrointestinal bleeding was NSAIDs. When the arrival hemogram values of the patients were examined, hemoglobin: 9.5 ± 2.7 g/dl, hematocrit: 28.5 ± 8.1%, MCV: 87.1 ± 8.0 fl, platelet: 265991 ± 139082/mm3.

Especially if NSAIDs are to be administered in patients over 60 years of age, gastroprotective drugs must be added together. In the treatment of patients with GIS bleeding, the aim is primarily to provide hemodynamic stability. For this, pharmacological treatment should be initiated in addition to appropriate fluid replacement therapy. Then, endoscopy should be planned and diagnosed as soon as possible. Endoscopic diagnosis-treatment success in patients with GIS bleeding is related to the bleeding episode and the time between clinical presentation and endoscopy. Therefore, endoscopy should be performed as soon as possible, especially for patients with high-risk indicators for mortality and recurrent bleeding.

In a study that lasted more than three years, WBC, CRP, Endoscopy findings and demographic findings were compared to determine the hospitalization criteria of patients with GIS bleeding. In total, the average WBC of 30 patients was found to be 11.06. After the calculations, it was observed that CRP and WBC values had no significant effect ($p > 0.224$) on hospitalization or mortality[15].

In a study conducted by Bahar Işık, in which upper GIS hemorrhage mortality and MPV values were examined, the mean MPV value was found to be 8.03 ± 1.19, and mortality rates were found to be higher ($p < 0.002$) in patients with high MPV values[16]. On the other hand, it is seen in the literature that even unrelated conditions such as nosebleeds and colorectal cancer that cause inflammatory events increase the RDW value ($p < 0.029$)[17,18].

In addition to providing bleeding control, accompanying diseases should be treated carefully in reducing mortality. Patients with upper gastrointestinal bleeding, especially those with advanced age and comorbid diseases, should be followed up in intensive care conditions due to the high mortality rate. Upper gastrointestinal system bleeding is one of the common urgent problems in gastroenterology and constitutes 80% of all gastrointestinal system bleeding. Etiologically, peptic ulcer, erosive gastritis, esophageal varices are the most common lesions. It will be more appropriate to follow-up patients with the critical condition in intensive care units. Clinical parameters of increased risk for re-bleeding and mortality before endoscopy; Patients over the age of 65 have a shock, concomitant disease, rectal examination, sputtered content, and fresh red blood in the nasogastric aspiration fluid[19].

As a result, the most important parameter that adversely affects GIS bleeding is advanced age. Patients with advanced age and GIS bleeding with comorbid diseases should be directed to endoscopy without delay. These patients can have a high mortality rate and should be followed in intensive-care conditions. Although there are significant results of using WBC, RDW, and MPV values in the follow-up of GIS bleeding in the studies conducted so far, it is obvious that new studies will increase these data by expanding and differentiating the studies with appropriate parameters.

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Review Article
Eurasian Journal of Critical Care

Determination of the Effect of Lactate Values in the First Blood Taken of Patients Admitted to the Emergency Department with Epileptic Seizures on Prognosis

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Abstract

Epileptic seizures occur as a result of sudden, excessive and abnormal discharge in cerebral neuron groups. It can be defined as different clinical symptoms. Grand mal type has the most severe attacks, and motor activity characteristically consists of tonic and subsequent clonic phases. Epilepsy in industrialized countries incidence values vary between 20-70 / 100,000. Average epilepsy for developed countries the prevalence of 6/1000 and in developing countries, studies, which performed with the WHO protocol, this ratio is calculated to be 18.5 / 1000 on average. In epilepsy mortality etiologies are still being investigated. PH and CO 2 levels are measured with arterial blood gas. CO2 level is a good indicator of ventilation. Lactic acidosis one hour after the seizure and associated metabolic acidosis may occur. However, in this case, no treatment is usually required. Acidosis lasting more than an hour should be investigated for other reasons. In our study, retrospectively, between January 2020-March 2020, patients with seizure and epileptic seizures as the primary diagnosis, the age between 18-75 years and whose blood gas was studied were included. Lactate values in blood gas are on file and patients were observed for mortality. 102 patients whose results were evaluated, mean age was 40. 41% women, 58% was male. The mean blood gas lactate values were 3.39. In another study[3] Biochemical CK, LDH and Prolactin values of patients who had a seizure by the time entering E.R. and those who without seizure were compared. All three values tend to increase in patients presenting with epileptic seizures. 2 of the patients in our study died and their lactate values were compared with other patients. There was no significant difference. In conclusion, in determining mortality and morbidity rates in the management of epilepsy patients lactate has not been a pioneering guide. There are not many studies on this. The patients' clinic is more valuable than lactate levels. Patients with frequent seizures should be followed up in intensive care units.

Keywords: Blood gas, Epileptic, Lactate

Introduction

Epilepsy is one of the most common serious neurological diseases. Epileptic seizures can be defined as different clinical symptoms that occur as a result of sudden, excessive, and abnormal discharge in cerebral neuron groups. Grand mal is the most severe attacks, and motor activity characteristically consists of tonic and subsequent clonic phases[1]. Epilepsy incidence values vary between 20-70 / 100,000 in industrialized countries. It is calculated that the average prevalence of epilepsy in developed countries is 6/1000, and in the prevalence studies conducted with the WHO protocol, this rate is 18.5 / 1000 in developing countries. Approximately 50 million of the world's population are patients with epilepsy. It is estimated that 700 thousand epilepsy patients in Turkey[2].

In addition to clinical information for the diagnosis of epilepsy, the most important auxiliary diagnosis method is Electro Encephalo Radiography (EEG) and EEG should be performed on every patient who is thought to have seizures. The first diagnosis should be made within the first week, and in other cases, the EEG should be done within 4 weeks at the latest after the request. EEG cannot be used alone to diagnose epilepsy. EEG can be used as an aid in determining the seizure type and prognosis of epilepsy syndrome in individuals suspected of having epilepsy. This can provide an accurate prediction of prognosis in individuals. Seeing an epileptiform activity in the EEGs of individuals with seizures that occur without a triggering cause for the first time indicates a high probability of seizure recurrence. Special investigations may always be required for individuals with diagnostic difficulties. In cases where the diagnosis of epilepsy or syndrome is uncertain, repetitive EEG scans may be useful.

The etiology of epileptic seizures in adults differs. The most common cause is a brain tumor. If the seizure started before the age of 20 without a history of head trauma, 10% of the patients may have a brain tumor. Seizures are often the first symptom of an intracranial mass[3]. Head injury is the other most common cause in young adults. While a minority of severe closed head injuries have seizures, the incidence increases significantly in open head injuries with skull and dura penetration. Post-traumatic seizures can occur within a year after injury. Therefore, patients with head injuries can use anticonvulsants prophylactically for one year. It is very difficult to determine the role of heredity in etiology. Some patients may have a predisposition to epilepsy. Etiological investigations can take years without finding a cause. Risk factors in the etiology of recurrent seizures include young

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age, genetic predisposition, acquired brain damage, hypoxia, and metabolic causes. Fever is a common risk factor in children (responsible for 52% of cases).

Seizures can be triggered by various stimuli in patients with epilepsy. These warnings may differ from individual to individual. One of the most common precipitating factors in children is watching television in a poorly lit environment. Especially smells, noise, certain types of music, and being afraid of something can be counted among other precipitating factors. Other conditions that trigger seizures in epileptic patients are metabolic imbalance and electrolyte imbalance, fatigue, hypoglycemia, insomnia, emotional stress, electrical shock, febrile illnesses, alcohol use, drinking too much water, constipation, menstruation, and hyperventilation.

The patient with epilepsy should be monitored by the Neurology Department and a Neurologist should be found to contact when necessary. Suitable for patients with epilepsy, their lifestyle, and medical conditions; There should be a plan in which the patient and family are involved in the treatment. It is important to train nurses who specialize in epilepsy. These nurses should be involved in patient-family care and education in a way that supports doctors. Healthcare professionals also have a responsibility to tackle prejudices and misconceptions by informing society and those living with epilepsy patients about epilepsy.

Seizures recur in time for each patient in a certain pattern, usually spontaneously or based on some triggering factors. Between seizures, the patient usually continues his normal life. Although the seizure intervals and types are extremely variable, one or a few specific seizure types tend to recur in the same patient[3]. While talking about the positive effects of physical fitness on general health, patients with epilepsy are always excluded from participating in physical activity. For both patients and physicians, this is because of the fear that physical activity will cause injury and exercise will increase seizures in patients with epilepsy. Due to the high mortality rates, this syndrome should be both prevented and managed effectively. Unfortunately, the management of epilepsy is overlooked and services often fall short. For the successful and effective management of patients with epilepsy, nurses should inform patients about sources of help and support, and provide information on specific issues such as driving, work, and pregnancy. Also, they should know about antiepileptic drugs and know what to do in emergencies[3,4].

In addition to patients with epilepsy who applied to the emergency department, many patients are presenting with a conversion attack. It is important to distinguish between this patient group. It may be difficult to distinguish between clinical observation and pseudo-epileptic seizure and epileptic seizure. In a study related to this[5], muscle enzymes and prolactin levels were investigated in the laboratory. Laboratory findings of fifteen people with generalized tonic-clonic seizures, fifteen people with conversion, and fifteen healthy people were collected and compared. The comparison revealed that creatine phosphokinase (CPK) levels increased significantly in the first three to four hours following the seizure. It was found to be significantly higher ($p < 0.05$) compared to the CPK values of healthy individuals with conversion seizures. Besides, Lactate dehydrogenase (LDH) was observed to increase significantly ($p < 0.05$) in epileptic patients compared to conversion and healthy individuals. Based on these results, it is concluded that these parameters are effective in distinguishing false seizures from epileptic seizures. In another study[6], CPK levels were found to increase significantly ($p < 0.05$) in epileptic seizures. Serum prolactin levels reach their maximum level in the blood within 20 minutes after epileptic seizures and remain high for a while[7-9]. Especially after generalized tonic-clonic seizures and temporal lobe seizures, an increase is seen. An increase in prolactin level is not expected in pseudo-seizures, simple partial seizures, or frontal lobe seizures. In the study[5], prolactin levels of patients with epileptic seizures were found to be significantly higher ($p < 0.05$) compared to patients with conventional seizures and healthy individuals. To distinguish non-epileptic seizures, including conventional seizures, from epileptic seizures, inexpensive laboratory tests CPK, LDH, and prolactin can be used actively in emergency services.

The etiologies of mortality in epilepsy are still being investigated. PH and CO2 levels are measured with arterial blood gas. The CO2 level is a good indicator of ventilation. Lactic acidosis and associated metabolic acidosis may occur one hour after the seizure. But in this case, it mostly improves without treatment. Other causes are investigated in acidosis lasting longer than an hour. Acidosis may continue in recurrent seizures. In cases of prolonged and recurrent seizures, it is recommended to follow the patient in the intensive care unit.

Method

In our study, patients who applied to the Emergency Medicine Clinic of Istanbul Health Sciences University Kanuni Sultan Süleyman Training and Research Hospital between January 2020 and March 2020 retrospectively, and patients between the ages of 18-75 were examined, and patients with epilepsy seizures and blood gases in their blood were examined as the primary diagnosis. is included. The lactate values in blood gas are on file and patients are observed for mortality.

Results

The mean age of the 102 patients whose results were evaluated was 40 (SD ± 18.18). 41% were women and 58% were men. The mean blood gas lactate values were 3.34 (SD ± 2.28). In another study[3], biochemical CK, LDH, and Prolac-

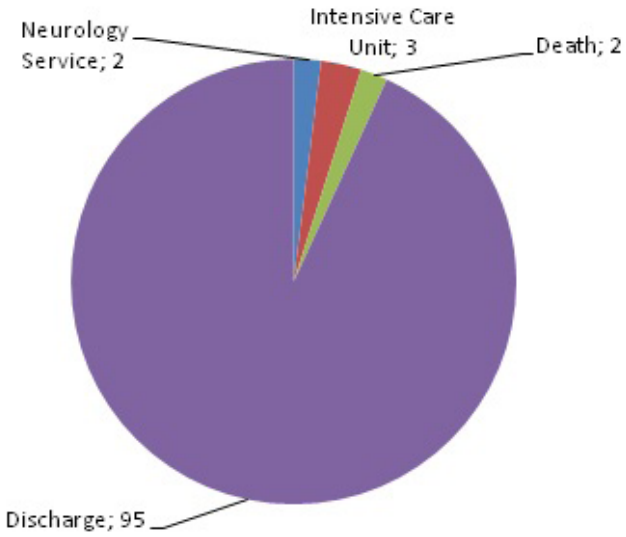

Table 1: Outcome status of the patients who applied

tin values of patients with and without seizures were compared. As a result of the comparison, it was observed that patients presenting with epileptic seizures were statistically significantly higher ($p < 0.05$). All three values tend to increase in patients presenting with epileptic seizures.

2 of the patients in our study were EX and the mean lactate value was 3.77 (SD ± 2.38), no significant difference ($p > 0.05$) was found when compared with other patients. In the study, 3 people were admitted to the neurology service for follow-up purposes. The mean lactate of 3 patients hospitalized in the service was 5.89 (SD ± 6.15). Two people in the study were admitted to the intensive care unit with a pre-diagnosis of status epilepticus. The mean lactate means of two patients hospitalized in intensive care was 3.76 (SD ± 0.73). In the cross-statistical study, $p > 0.32$ was found, and no significant result was found.

Discussion

Although epilepsy is considered a chronic disease, its severity and prognosis are variable. However, the history of the disease and the resulting stigma impair the quality of life in many epilepsy patients. Studies have shown that patients with epilepsy are less self-confident and more prone to anxiety and depression. They are socially isolated, the marriage rate is low and unemployment is higher. Many patients with epilepsy lead a sedentary life and do not participate in physical activity. Bjortholt et al showed that up to half of the patients with epilepsy participated in physical activity. It has been observed that most of them avoid team and other group activities. Lack of physical activity can have many consequences. Patients with epilepsy are at increased risk of developing hypertension, diabetes, and heart disease, as are those in the general population who are not physically active. Also, the psychological and psychosocial benefits of exercise, such as improved self-esteem and good mood, reduced anxiety, and stress, are also lost. Based on these studies, there is an increased risk of morbidity and mortality in patients with epilepsy who act less than other individuals in society ($p < 0.05$).

Epilepsy patients and their relatives should be educated about the physiology, treatment, and expected results of seizures. The patient is assisted in how drug therapy should be applied while performing activities of daily life without interruption. They should be informed about the name, dosage, frequency, toxicity symptoms, and side effects of the drugs taken. The importance of monitoring the blood levels of anticonvulsant drugs is emphasized. The necessity of avoiding alcohol and emotional stress is explained. The need to provide proper nutrition and rest is explained. Information is given about which activities will be dangerous. The family is informed about security measures. It is ensured that the lack of information about the patient and family is eliminated.

People with epilepsy should have access to services that specialize in epilepsy. A comprehensive follow-up plan that includes the compatibility of the patients with epilepsy and primary and secondary health services should be established. This should include lifestyle and habits as well as medical issues. Nurses specializing in epilepsy should be an important part of the service network of individuals with epilepsy. The key role of epilepsy nurses should be to provide information, education, and support to individuals and families.

Other studies[11] emphasize the importance of evaluating epilepsy patients as multifactorial. It is not enough to evaluate only in terms of seizure frequency and treatments, but also diagnostic difficulties, treatment compliance, and side effects, etc. Psychosocial factors should be addressed and evaluated for the solution of many situations/problems encountered in the clinic. It has once again revealed the necessity of informing and educating their families on these issues. We can reveal these disorders that patients generally avoid telling, only by spending more time with our patients and by special interview methods. The density of the number of patients in epilepsy clinic doctors in Turkey and most of our patients to address only the physical aspects of the necessity to draw attention to this issue shows us again.

In conclusion, lactate could not be a leading guide in determining mortality and morbidity rates in the management of epilepsy patients ($p > 0.05$). The mean lactate levels of the patients hospitalized in the service were higher than the patients who were hospitalized in the intensive care unit and those who were discharged. According to these results, lactate was not found to be significant in the prognosis and

follow-up and predictability of morbidity and mortality in the patient (p> 0.05). There are not many studies on this.

The patient's clinic is worth more than lactate. Although the first application clinic of the patient is more meaningful for the condition of the patient during follow-up, it can be attributed to the postictal period of the patients with low Glasgow in our clinical follow-up. Some of them have low Glasgow coma scales that may arise within a few hours. Patients with frequent seizures should be followed up in intensive care units. Early intubation should be considered in patients with low Glasgow scores in terms of aspiration.

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Case Report
Eurasian Journal of Critical Care

Is Thrombolytic Therapy Safe after CPR for Patients with Pulmonary Embolism?

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Abstract

Pulmonary embolism (PE) is a life threatening emergency condition. PE is considered in suspected patients referring due to syncope or shock. Trombolytic treatment may be started for the patients with higher risk for PE according to transthoracic echocardiography (TTE) results. An eighty-year old female patient was taken to the emergency service at an unconscious state by her relatives. No pulse was detected in the first assessment. Cardiopulmonary resuscitation (CPR) was started. Return of spontaneous circulation (ROSC) was achieved at 15th minute of the CPR. TTE revealed dilation in the right ventricle and lower pressure in the left ventricle. There as not any risk factor for pulmonary embolism in preliminary diagnosis. The unstable patient was referred to CT angiography with emergency medicine physician. An image consistent with embolism in both branches of the pulmonary artery was detected in CT angiography and trombolytic treament was started. The patient was admitted to intensive care unit of the emergency service. Thrombolytic treatment may be implemented for high-risk patients for PE and in the patients who achieved return of spontaneous circulation after cardiac arrest. Furthermore, such interventions were detected to be life saving

Keywords: After CPR, Pulmonary embolism, Thrombolytic therapy

Introduction

Pulmonary embolism (PE) is a clinical manifestation, which appears as a result of obstruction of the pulmonary artery and its branches by different substances. Acute PE has a wide clinical presentation from asymptomatic senile disease to hemodynamic instability and shock[1].

PE is the third most common cause for cardiovascular system-originated death causes. Despite all developments in diagnostic and therapeutic methods, PE accounts for 5-15% of hospital deaths. PE progresses to death by 20-30% and deaths usually occur within 1-2 hours. When the condition is diagnosed and appropriate treatment is applied, the early mortality rate decreases to 4.9%.[2]; however, mortality rate may increase up to 65% in the patients who developed cardiac arrest due to PE[3].

PE should be considered for differential diagnosis in all cases referring with cardiac and respiratory system complaints with new onset. Computed tomography pulmonary angiography (CTPA) is gold standard for diagnosis[4]. Thrombolytic treatment may be started by detection of overloading findings to right ventricle through bedside transthoracic echocardiography (TTA)[5].

Although there are treatment examples related to thrombolytic treatment during CPR in cardiac arrests developed due to PE, the data about use of thrombolytic agents after CPR is limited[6, 7]. The aim of the present paper was to present a case who achieved return of spontaneous circulation and was monitored in emergency department intensive care unit (EDICU) after administration of thrombolytic treatment.

Case Report

A 80-year old female patient who became unconscious following shortness of breath was taken to the emergency department by her relatives. The patient had no pulse at referral; endotracheal intubation was performed and CPR started. Spontaneous circulation returned (ROSC) after 15 minutes of CPR. Ventricular extra-systoles were detected in electrocardiography (Figure 1). Findings for right ventricle overloading was detected in the bedside transthoracic echocardiography (TTE). However, the patient had not any previously known risk factor for pulmonary embolism. CTPA was performed due to preliminary diagnosis of PE.

A filling defect consistent with thrombus, which restricts the blood flow, was detected on proximal side and lower segments of right and left pulmonary artery in CTPA (Figure 2). High Risk PE was diagnosed. After patient relatives signed informed consent forms 100 mg of plasminogen activator (rt-PA) was administrated.

The patient was admitted to EDICU after administration; spontaneous warfarin treatment as well as intravenous un-

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Table1: Arterial Blood Gas (ABG) monitoring scheme of the patient

	Ph	pCO2	pO2	HCO3	K^+	Lactate	Glucose	ProBNP
During CPR	6.611	124	25	12,3	5,6	not measurable	370	
10th of CPR	6,65	65	167	5,7	4,11	not measurable	350	
Post CPR	6,991	36,9	336	8,7	4,85	not measurable	435	
10 min after CPR	7,032	45,6	181	11,8	4,35	13,89	353	
Thrombolytic post 30 minutes	7,138	52,7	113,1	17,5	3,63	10,47	286	
Thrombolytic post 90 minutes	7,181	49	80,7	17,9	3,2	7,25	239	
1st day after thrombolytic	7,336	34,6	113,6	18,1	2,65	4,5	152	2552
Day 2 after thrombolytic	7,359	33	124	18,2	5	2,52	140	
Day 3 after thrombolytic	7,416	35	94	22,1	3,87	1,46	135	

(CPR: Cardiopulmonary Resuscitation, Lac: Lactate, ProBNP: Brain Natriuretic Peptide, K^+: Potassium, HCO3: Bicarbonate, pO2: Partial oxygen saturation, pCO2: Partial carbondioxide saturation)

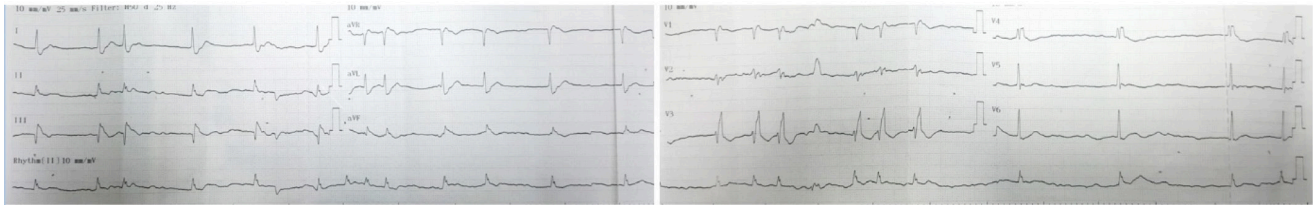

Figure 1: ECG after CPR (ventricular extrasystole)

fractionated heparin infusion were started. Decrease in Pulmonary artery pressure (PAP) and regression in right ventricle overloading were detected during bedside TTE monitoring in EDICU. Sinus tachycardia was detected in the control ECG (Figure 3). Furthermore, improvement was observed in ProBNP and blood gas analysis as well as hemodynamic signs of the patient. At the 24th hour of the patient's follow-up, Ph returned to normal values (Ph: 7,336). After 48 hours, Lactate decreased from unmeasurable values to 2.52 (mEq/L) and ProBNP decreased from 2552 (pg/ml) to 688 (pg/ml)(Table 1).

There was not any predisposing factor or disease detected for PE development in aetiological research. Deep vein thrombosis (DVT) was not detected in Doppler ultrasound scan of the lower limbs during intensive care follow-up. Upon achievement of spontaneous ventilation at 25th day of EDICU admission, the patient was extubated. The patient whom we have monitored for about 30 days were transferred to the clinic. The patient had spontaneous ventilation; vital signs were stable, she was conscious, she has cooperation and orientation at time of discharge from EDICU. Verbal consent was obtained from the patient's relatives to be presented as a case.

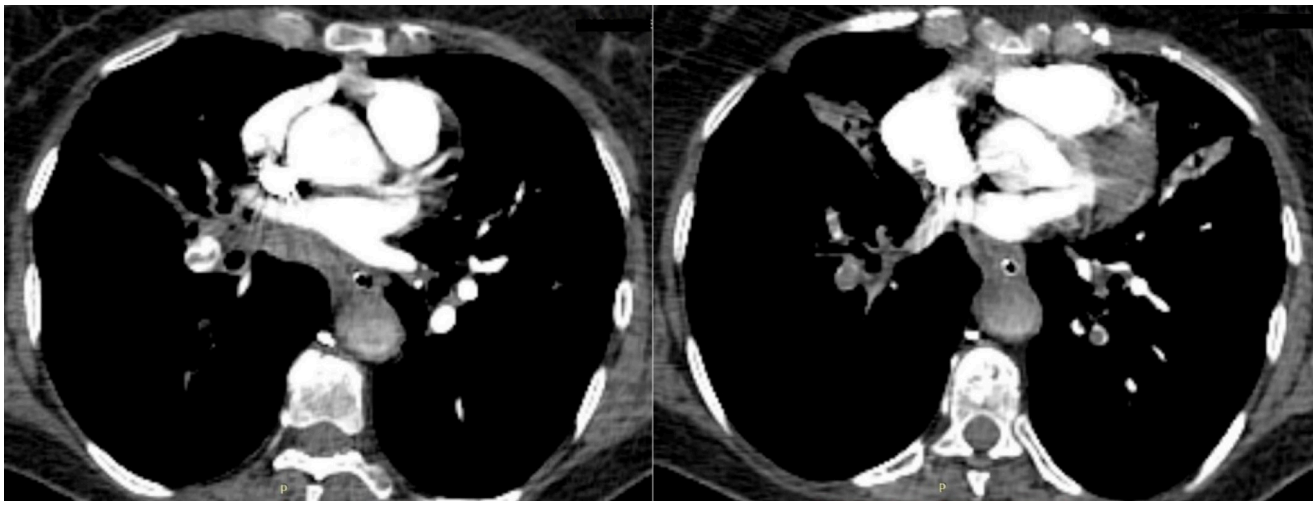

Figure 2: Thoracic CT Angiography (pulmonary embolism causing filling defect in pulmonary artery branches bilaterally)

Discussion

Pulmonary embolism is a condition, which is the third most common deaths caused by cardiovascular system disorders with high morbidity and mortality. Initial test for the patients with high risk for PE referring by shock or hypotension should be CTPA, if available, or bedside TTE which shows the findings caused by acute pulmonary hypertension and overloading of the right ventricle[5].

Cardiac arrest may develop in the cases with high risk PE and 52% to 65% of these cases may be mortal[8]. Live saving thrombolytic treatment is recommended during CPR in case of cardiac arrest caused by PE[5].

Jiang-Ping Wu et al. reported a case who achieved spontaneous circulation through administration of thrombolytic due to suspected PE simultaneously with CPR after arrest and failure of achieve spontaneous circulation after 100 minutes of CPR. It was reported that the aforementioned case recovered without any sequel[7].

Aliyev et al. In a case report with cardiac arrest due to PE, the patient undergoing thrombolytic treatment did not develop any complication of bleeding despite the CPR that lasted longer than 55 minutes[9].

It was reported in a meta-analysis, which evaluated efficiency and safety of thrombolytic treatment in CPR, that, CPR and thrombolytic treatment started within 15 minutes after CPR have possible advantages than potential risks. ROSC, long-term survival and neurological recovery rates were detected significantly higher in those patients. Furthermore, there was not any evidence that treatment-induced bleeding may cause death[10].

In a study evaluating 49 patients with pulmonary embolism whom thrombolytic was administrated during and after CPR, two patients who achieved ROSC after CPR and received thrombolytic died after then. However, the basic cause for death of these patients was considered as a delay in the treatment rather than a complication due to thrombolytic[11].

No complication developed in our case whom we administrated thrombolytic after CPR and monitored in EDICU for 30 days during thrombolytic treatment and EDICU follow-ups; furthermore, regression in ventricle overloading and improvement in laboratory and vital signs were detected.

Conclusion

Thrombolytic treatment may be used safely if high risk PE is considered fro the patients who achieved ROSC after CPR. However, further studies are needed.

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Case Report
Eurasian Journal of Critical Care

A Young Man with Fever and Throat Pain

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Abstract

A 32-year-old male, previously healthy, came to the emergency department complaining of fever, cough, and sore throat for two days. His vital signs revealed a 38.7 C temperature, pulse rate of 107/min, and respiratory rate of 24/min. Examination of the throat showed bilateral tonsillar erythema with enlargement and swelling of the left tonsil and deviated uvula to the right side (figure 1 A & B). Thus, analgesia and antipyretics were commenced. His blood tests revealed a WBC of 14 (range 4–11) ×109/L and C reactive protein of 108 (0–5) mg/l. An ultrasound (US) of the affected tonsil with an endocavity probe confirmed abscess collection with the carotid artery close to the inferior segment (figure 2). Thus, a diagnosis of the peritonsillar abscess was confirmed. Consequently, the diagnosis was explained to the patient, and consent was taken for abscess aspiration under local anesthesia. Aspiration was done using an 18 G needle with a plastic cap on and sawed at 1 cm to guard and prevent the needle's deep penetration. The needle was pointed to the superior segment, and 3-4 ml of pus was aspirated. Besides, antibiotics were given, and the patient was discharged to follow with the otolaryngology clinic.

Keywords: Fever, Peritonsillar abscess, Throat pain

A 32-year-old male, previously healthy, came to the emergency department complaining of fever, cough, and sore throat for two days. His vital signs revealed a 38.7 C temperature, pulse rate of 107/min, and respiratory rate of 24/min. Examination of the throat showed bilateral tonsillar erythema with enlargement and swelling of the left tonsil and deviated uvula to the right side (figure 1 A & B). Thus, analgesia and antipyretics were commenced. His blood tests revealed a WBC of 14 (range 4–11) ×109/L and C reactive protein of 108 (0–5) mg/l. An ultrasound (US) of the affected tonsil with an endocavity probe confirmed abscess collection with the carotid artery close to the inferior segment (figure 2). Thus, a diagnosis of the peritonsillar abscess was confirmed.

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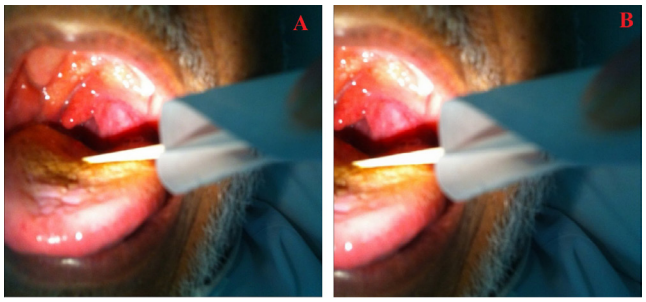
Peritonsillar abscess is defined as a collection of pus behind the tonsils[1]. It occurs due to aerobic and anaerobic bacteria, but Group A streptococcus is the predominate organism[2]. Typically, symptoms include but are not limited to fever, change of voice, throat pain, headache, and neck pain. We can notice drooling, salivation, muffled voice, asymmetric tonsillar hypertrophy, and cervical lymphadenitis on examination of the tonsils. The diagnosis mostly depends on history and physical examination. Besides, medical imaging like a Computerized tomography scan and ultrasound can be done to confirm suspected cases or to rule out complications. The management includes removing pus through aspiration, incision, and drainage or tonsillectomy, with particular attention that should be made for maintaining the airways. Additionally, pain medication, antibiotics, steroids, and hydration should be provided where hospital admission is not generally essential[3].



Figures (1A and 1B): throat examination of the patient revealed the left tonsil enlarged and erythematous with the uvula deviated to the right side.

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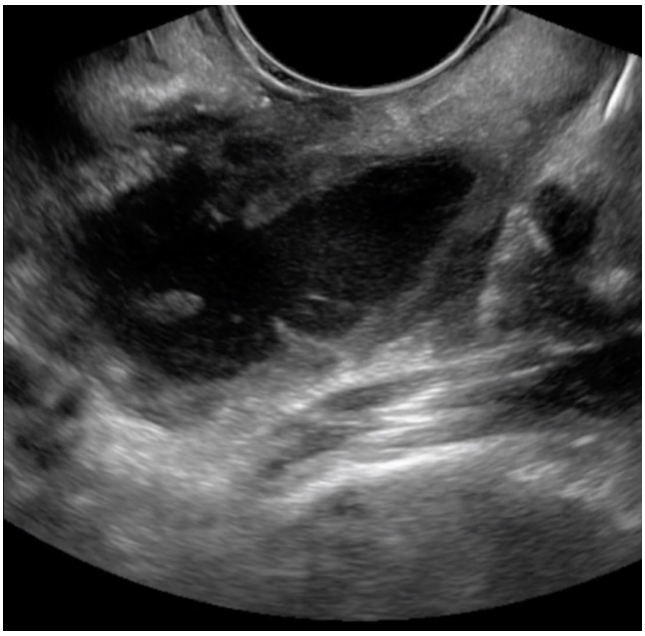

(Figure 2): Ultrasound of left tonsil showed abscess collection (peritonsillar abscess)

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Case Report
Eurasian Journal of Critical Care

A Rare Cause of Intestinal Obstruction Obturator Herni

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Abstract

Obturator hernia is a rare type of hernia. It constitutes 0.05% to 1.4% of all hernias (1). It occurs when intraabdominal organs pass through the obturator canal in the anterior pelvis. Since the obturator canal is wider in women, it is more common than men. Advanced age, low body mass index, and multiparity are the most common causes of etiology (2). Because of its rarity compared to other hernias, its symptoms and signs are not specific, delay in diagnosis and treatment increases mortality and morbidity. In this case, we aimed to present our approach to the diagnosis and treatment of a 81-year-old female patient with both bilateral inguinal hernia and obturator hernia, who was admitted to the emergency department with the clinic of ileus.

Keywords: Hernia, Ileus, Obstruction

Introduction

Obturator hernia is a rare type of hernia. It constitutes 0.05% to 1.4% of all hernias[1]. It occurs when intraabdominal organs pass through the obturator canal in the anterior pelvis. Since the obturator canal is wider in women, it is more common than men. Advanced age, low body mass index, and multiparity are the most common causes of etiology[2]. Because of its rarity compared to other hernias, its symptoms and signs are not specific, delay in diagnosis and treatment increases mortality and morbidity. In this case, we aimed to present our approach to the diagnosis and treatment of a 81-year-old female patient with both bilateral inguinal hernia and obturator hernia, who was admitted to the emergency department with the clinic of ileus.

Case Report

81-year-old female patient was referred to us from an external center with complaints of abdominal pain, nausea, and vomiting for 5 days. On physical examination, there was abdominal distention and tenderness in the lower quadrants. There was no defense and no rebound. It was observed that there was a reduced direct inguinal hernia in both inguinal regions. In the rectal examination, the ampulla was empty. There were air-fluid levels in the small intestine in several areas on standing direct abdominal radiography. The patient was 156 cm in height and 55 kg in weight. Body mass index was 22.6 kg/cm2. Laboratory findings were WBC: 5.7 10^3/µl CRP: 9.18 mg/dl. Contrast-enhanced computed tomography (CT) was performed in the patient with normal creatine. Air-fluid levels were present in the small intestine on CT. In addition, a small intestine segment herniated from the left obturator canal was seen. Inguinal hernia was found in both inguinal regions. The patient was urgently operated. The abdomen was entered with a 10 mm camera trocar using the under-umbilical open technique. On exploration, large direct inguinal hernias were found in the right and left inguinal regions. It was also observed that there was a 1 cm defect in the obturator fossa and an incarcerated bowel loop within this defect. Two 5 mm working trocars were entered from the right and left middle quadrants. The bowel was drawn into the abdomen. There was no ischemia in the bowel. The proximal bowel loops were in a dilated appearance. A plug mesh was placed in the defect in between and peritonized. Upon the development of intraoperative bronchospasm and hypoperfusion in the patient, it was decided to open it after consultation with anesthesia. Trocar locations were duly closed. Bilateral inguianal hernia repair was performed using the Lichtenstein method. The patient who did not develop any complications was discharged with recovery on the 5th postoperative day.

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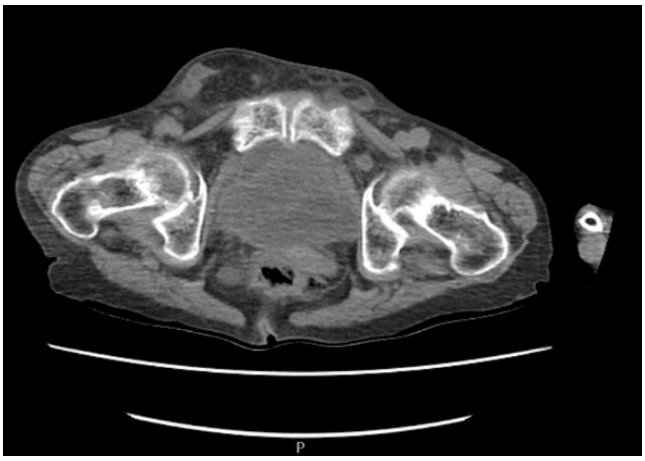

Figure 1: Obturator hernia view on abdominal computed tomography.

Result

Obturator hernia is a very rare pelvic hernia with nonspecific symptoms, usually seen in older, thin, multiparous women. Mortality and morbidity are very high in elderly patients with additional diseases. Therefore, obturator hernia should be considered in the differential diagnosis of elderly patients who come to the emergency department with intermittent obstructive symptoms and imaging methods should be used for diagnosis. Laparoscopic approach is used today as a more effective approach than traditional methods in the diagnosis and treatment of obtrurator hernia in the appropriate patient group.

Discussion

Obturato hernia is an extremely rare type of hernia. Morbidity and mortality are very high due to the difficulty of diagnosis and delay in treatment. With aging, decreases in preperitoneal adipose tissue, enlargement of the pelvis, multiple births increase the incidence of obturator hernia[3]. Intestinal obstruction, seen in more than half of the cases, is the most common finding. It is usually accompanied by abdominal pain, distension, and vomiting. When the hernia sac contents are reduced spontaneously, the patient's clinic can recover spontaneously. In some studies, it has been reported that these symptoms can be seen intermittently before diagnosis in most of the cases[4]. Rarely, patients may experience pain on the inner side of the thigh due to the compression of the hernia sac on the obturator nerve. This condition, known as the Howship-Romberg sign, can be seen in 15-20% of the cases. In fact, these patients are evaluated by other branches considering the musculoskeletal disease. Since abdominal symptoms are ignored, delays in diagnosis and treatment may be experienced[5]. For diagnosis, barium radiographs, herniography, abdominal ultrasonography, and CT can be used. Generally, these examinations can be diagnosed. Laparoscopy or laparotomy may be required for definitive diagnosis in patients who cannot be diagnosed despite all these methods[6]. In the presented case, the diagnosis of the patient was made by CT performed in the preoperative emergency service.

Early surgical intervention should definitely be planned for patients with peritonitis, ileus and strangulation in the treatment of obturator hernias. In patients with uncertain clinical findings or nonspecific symptoms, imaging methods must be used to clarify the diagnosis[7]. Many procedures have been described, including defect repair in obturator hernias. In addition to intraabdominal, retropubic, preperitoneal or inguinal approaches, laparoscopic surgical approach is also commonly used today. The defect can be repaired using primary or grafts[8]. In the presented case, laparoscopic obturator hernia repair was performed using mesh. It was observed that there was no incarceration or strangulation by exploring the abdomen. Later, an open inguinal hernia was repaired.

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Case Report
Eurasian Journal of Critical Care

A Case of Intraabdominal Bleeding Presented with Massive Hemothorax

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Abstract

Massive hemothorax is generally occurred due to intercostal artery injury, lung laceration, major vessel injury, or diaphragmatic rupture. Diagnosing a diaphragm injury can be difficult and requires high suspicion, especially when the patient has other related serious injuries. Diaphragm injury is often discovered in patients undergoing laparotomy to examine other abdominal injuries. Here we report a case of abdominal bleeding that occurred after blunt trauma resulted in massive hemothorax because of blood drainage into the thorax through the ruptured diaphragm without radiological abnormalityand its successful treatment.

Keywords: Massive hemothorax, diaphragmatic rupture, liver laceration, inferior vena cava injury.

Introduction

Blunt chest trauma is the cause of approximately 25% of traumatic deaths andmassive hemothorax is one of the most important causes of death. Massive hemothorax is generally occurred due to intercostal artery injury, lung laceration, major vessel injury, or diaphragmatic rupture[1,2]. Diaphragmatic injuries of various degrees are detected in 0.8% - 1.6% of the patients who apply to hospitals due to blunt chest trauma[3]. Diagnosing diaphragm injury can be difficult. Recognition requires high suspicion, especially when the patient has other related serious injuries. Diaphragm injury is often discovered in patients undergoing laparotomy to examine other abdominal injuries. Diaphragm injury rarely life-threatening in the acute phase; however, injuries associated with diaphragm rupture are commonly life-threatening[4]. In this article we report a case of abdominal bleeding that occurred after blunt trauma resulted in massive hemothorax because of blood drainage into the thorax through the ruptured diaphragm without radiological abnormality and its successful treatment.

Case

A twenty-one-year-old male was brought to our emergency department due to a car accident. The general condition of the patient was moderate, conscious, orientated, and cooperative. Vital findings were measured as TA:100/60mmHg, pulse: 110/min, SPO2:90%, and respiratory rate:24/min. The patient had respiratory distress and breath sounds were reduced in the right hemithorax in the physical examination. Dulness was detected in the percussion of the right hemithorax. Other system findings were normal. Laboratory parameters were within normal limits. The patient had hypotension and tachycardia and thoracentesis was performed. Thoracentesis fluid was hemorrhagic so the patient underwent tube thoracostomy andisotonic fluid therapy was started. Computerized tomography revealeda right massive pleural effusion (Figure 1,2). There was no significant radiological finding in the brain and abdominal tomography (Figure 3). Hypotension didn't improve with intravenous fluid therapy and a blood transfusion was started. Thoracic surgery consultation was requested because ofhemorrhagic drainage from the tube thoracostomy over 1000 m/L and the patient was taken to emergency surgery. There was no focus to explain the bleeding in the thoracic organs and the thorax wall in the patient underwent right thoracotomy. A total rupture in the right hemidiaphragm and approximately 1 cm deepthroughout laceration in the dome of the liver were observed. There was apartial injury in the abdominal part of the vena cava inferior. The patient underwent diaphragmatic and liver repair through the thoracotomy incision and primary repair was performed to the bleeding area of the inferior vena cava. The patient was followed up on the first postoperative day in the intensive care unit. The patient's vital signs remained stable on the second postoperative day and he was discharged on the 5th day with healing.

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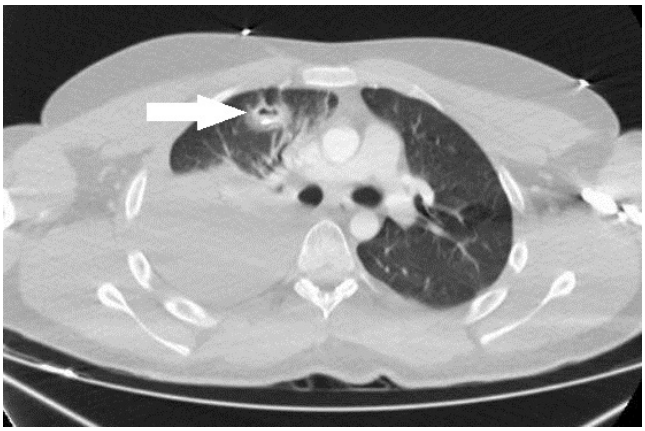

Figure 1. Righ-sided massive hemothorax is seen. The white arrow indicates the chest tube.

Discussion

As it is known hemothorax is the accumulation of blood in the space between the visceral and the parietal pleura. The clinical importance of hemothorax depends onthe amount, rate, and etiology of the bleeding and according to the injuries accompanying hemothorax[5]. The generally accepted first approach in traumatic hemothorax is the application of a thorax tube[6]. Drainage over 1,500 ml after tube thoracostomy or continuous bleeding amount of 200 ml/h for at least 4 hours is defined as massive hemothorax. Massive hemothorax is usually seen at the time of admission or in the early period after trauma and emergency thoracotomy is applied for its treatment[2].

Hemothorax often occurs as a result of penetrating or blunt chest trauma. [7]Mortality rate of blunt chest trauma is higher than that of penetrating chest trauma. Because the probability of additional organ injuries is higher in blunt trauma. [3] Diaphragmatic rupture occursin 1-7% of victims of blunt chest trauma and in 10-15% of patients with penetrating lower chest trauma[4]. Zhang et al. reported that 5.5% of patients had pneumothorax together with hemothorax and 0. 4% only had hemothorax in their study including 4168 blunt thoracic trauma patients. Diaphragm rupture was detected in 3 of 604 patients who underwent surgery. When comorbid injuries were evaluated, abdominal injuries ranked second with 2.9%. [8]Rib fractures in the lower level are often accompanied by spleen, liver, and diaphragm injuries. [8] This was an unusual case of hemothoraxbecause there was no fracture in the lower ribs. No evidence of diaphragm and intra-abdominal organ injury was observed in the radiological examinations. The diagnosis was determined perioperatively. Diagnosis of diaphragm injuries is still not easy if conditions requiring exploration are not accompanied. The sensitivity of tomography is 60-71% and the specificity is 87-100% in the diagnosis of an acute traumatic diaphragm rupture[9]. Shah et al. reported that the diagnosis of diaphragm injury was made only in 44% of the cases before surgery and the diagnosis was missed initially in 14.6% of the patients in a multi-center analysis involving 980 patients[10].The underlying mechanism of diaphragm rupture in blunt trauma is a sudden increase in intraabdominal pressure caused bythe acceleration-deceleration effect derived from high energy. Abdominal viscera herniate into the thorax through the injured diaphragmbecause the pressure inside the chest cavity is lower than normal abdominal pressure[9]. In this case, abdominal bleeding was directly drained into the thorax without intra-thoracic organ herniation due to positive pressure in the abdomen and negative pressure in the thoracic cavity

Figure 2. Antero-posterior CT scanogram of chest showing right-sided massive hemothorax.

Figure 3. CT axial view of the abdomen shows no pathological finding.

Conclusion

When traumatic hemothorax is detected in a patient, care should be taken for organ injuries that may accompany. A multidisciplinary approach has vital importance in patients even when tomographic imaging is normal.

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Case Report
Eurasian Journal of Critical Care

Hepatic Portal Venous Gas in Emergency Department: A Case Report

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Abstract

A 73-year-old man had vomiting for 15 days and severe abdominal pain for 2 days. Abdominal examination showed widespread tenderness and defense. Computed tomography showed gas images in the portal and mesenteric veins (porto-mesenteric venous gas), wall thickening in all intestinal loops and intramural gas image in the intestinal wall (pneumatosis intestinalis). The patient who had a high surgical risk died after the operation. In this article, we aimed to discuss the differential diagnosis, treatment and prognosis of HPVG in patients with current literature.

Keywords: Mesenteric ischemia, Pneumatosis intestinalis, Porto-mesenteric venous gas

Introduction

Hepatic portal vein gas (HPVG) is a rare radiological finding. It was initially noticed in patients with mesenteric ischemia or intestinal gangrene. Currently, it has been reported in cases with diverticulitis, necrotizing bowel diseases, blunt abdominal trauma, bowel obstruction, ulcerative colitis, intra-abdominal abscess, gastric ulcer, gastric cancer and colon surgery[1,2]. 70-80% of pneumatosis intestinalis and HPVG cases can be seen together[3]. HPVG, in combination with pneumatosis intestinalis, is a condition requiring immediate surgical intervention.

Early diagnosis and rapid surgical intervention are necessary to prevent large bowel necrosis. Gas can be easily diagnosed by radiographic, ultrasonographic or computed tomography (CT) findings in the hepatic portal vein[4].

In this article, we present a rare case with HPVG that caused by mesenteric vascular disease with the images.

Case

A 73-year-old male patient was admitted to the emergency department with complaints of abdominal pain especially in the epigastric region, nausea and vomiting, which started two days earlier. The patient had amyloidosis, congestive heart failure, chronic renal failure and dialysis three days a week. In the last 6 months, he has been lost 30 kilograms.

On physical examination, his body temperature was 37,6° C, heart rate was 120 / min, respiratory rate was 28 / min and blood pressure were 100/70 mmHg. The patient had cachectic, abdominal distended, defensive and extensive tenderness. İntestinal sounds were hypoactive. In laboratory examinations, leukocyte count was 19000 / uL, blood urea nitrogen was 61 mg / dL (normal value 15-40mg / dL), creatinine was 4,2 mg / dL, potassium was 5,6 mEq / L. Coagulation parameters and C reactive protein tests were within normal limits. In arterial blood gas, Ph was 7.4, PaO_2 was 88 mmHg, $PaCO_2$ was 32 mmHg, SaO_2 was 97% and lactate was 3,5 mg / dL.

In the direct abdominal radiography, diffuse gas distension is observed in all bowel loops and pneumatosis intestinalis in intestinal walls (Figure 1). Abdominal tomography showed air values in portal veins and mesenteric veins within the liver (portomesenteric venous gas) (Figure 2). Severe dilatation was observed in intestinal loops. Non-contrast abdomen CT scan of the lower abdomen showed diffuse pneumatosis intestinalis in the intestinal walls (Figure 3).

He was operated on with a preliminary diagnosis of acute abdomen. Colon ischemia was seen in the intestinal exploration until full-thickness small intestine and splenic flexure, and no resection was performed. The patient was followed up in the post-op intensive care unit and was connected to a mechanical ventilator. On the same day, her blood pressure decreased gradually and did not improve despite inotropic support. Patient who did not respond to resuscitation died on postoperative first day.

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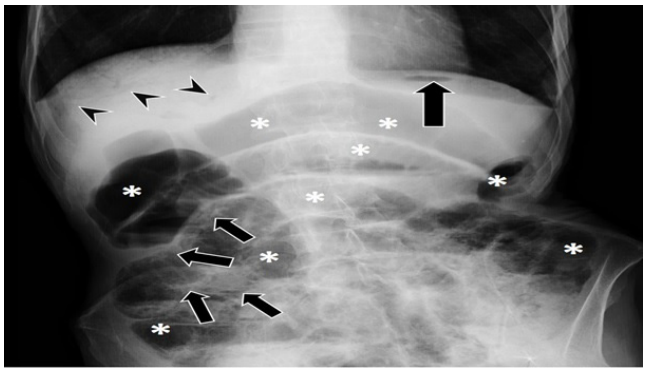

Figure 1. Direct abdominal X-ray image of the case. In all bowel loops, diffuse gas distension is noted (asterisks). Pneumatosis intestinalis in the intestinal walls is more prominent in small bowel loops, especially in the right lower quadrant (small arrows). The free air image in the subdiaphragmatic area on the left suggests perforation (large arrow). In addition, linear lucent areas of the liver are compatible with protal venous gas (arrowheads).

Written informed consent was obtained from the children of the patient for publication of this case report and accompanying images.

Discussion

Mucosal damage, transmural ischemia, intestinal distension especially in patients with mesenteric ischemia and increased intra-abdominal pressure in the trauma are the main causes of gas formation in the hepatic portal vein[2].

Acute intestinal ischemia is divided into four main clinical categories pathologically and histologically: acute mesenteric embolus, acute mesenteric thrombus, non-occlusive condition and mesenteric vein thrombosis[5]. The severity of intestinal ischemia can range from mild and transient intestinal mucosa damage to life-threatening transmural bowel infarction[6]. Early diagnosis and treatment determine outcome. Increasing physician awareness and initiating timely diagnosis and treatment in patients with suspected mesenteric ischemia is important in saving the patient's life[7]. The absence of specific symptoms in the clinical examination may complicate an appropriate assessment. The clinical course of bowel ischemia occurs in three stages. In the first stage (0-6 hours), acute abdominal pain present and shock, accompanied by diarrhea. In the second stage (7- 12 hours), there is a silent phase which shows a rapid clinical deterioration with intestinal paralysis, and in the last stage (12-24 hours) there is sepsis with ileus and bacterial peritonitis. At this stage, it usually develops to multi-organ damage. Satisfactory treatment results are only possible at an early stage (0-12 hours)[8]. Our case was third stage, because of necrosis developed in all intestinal segments and increased lactateand blood urea nitrogen values.

Figure 2. CT image of the abdomen without contrast material. There is widespread gas in the portal venous system in the liver (arrows). In addition, the image of free air in a large area of the stomach anterior is remarkable (asterisks).

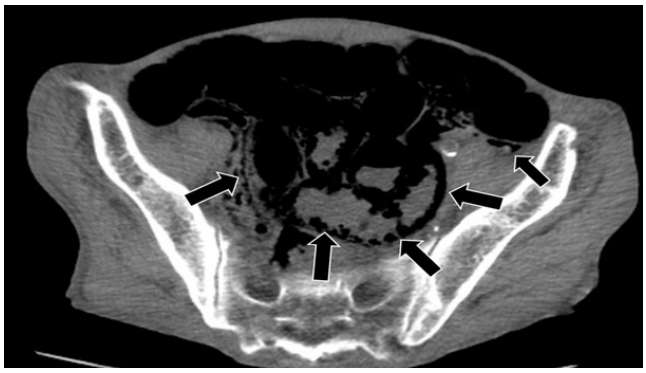

Figure 3. CT section of the non-contrast abdomen through the lower abdomen. Pneumatosis intestinalis is common in the intestinal walls (arrows).

Currently, biphasic contrast enhanced abdominal CT is the primary imaging modality in many medical centers. This technique provides high sensitivity imaging of the whole abdominal region in arterial and portal venous areas. Abdominal CT,fast and noninvasive technique, is available in most centers for 24 hours. Abdominal CT is an appropriate method for the diagnosis of acute mesenteric ischemia due to its sensitivity, specificity, availability and non-invasive[9].

The presence of pneumatosis intestinalis and HPVG is a strong indicator of mesenteric infarction or ischemia, therefore urgent exploratory surgery is required[3]. Current data suggest that the incidence of intestinal ischemia associated with pneumatosis intestinalis and portal venous gas is approximately 70%[10].

Patients with pneumatosis intestinalis and HPVG are more likely to show transmural infarction[3]. Kernagis et al. found that HPVG patients are more likely to show transmural infarction than pneumatosis intestinalis patients alone[11].

The presence of gas in the hepatic portal vein may also be helpful in deciding earlier surgical treatment[1]. Detection of HPVG in our case helped in the planning of diagnosis and

surgical treatment, but post-op loss was lost because of high risk factors.

Mortality in the presence of clinical and radiological signs of intestinal necrosis is 75-85% and in the presence of HPVG on plain x-ray is 75%.Emergency surgical intervention is indicated in this patient group. Mortality is 20-30% in patients with gastrointestinal distention, ulceration or abscess without peritonitis. Conservative treatments are recommended in this patient group who have low mortality. Conservative treatments combine antibiotic therapy, close observation, intravenous fluid, and naso-gastric decompression when required[12].

As a result, it is recommended to prevent the mortality rate with a rapid intervention in such rare cases with high mortality.

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Case Report
Eurasian Journal of Critical Care

A Case Report: Angioedema Developing in Half of the Tongue with Captopril

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Abstract

Angioedema (AE) is a life-threatening condition that can be seen in hereditary or non-hereditary form, usually manifests in subcutaneous tissue and progressed with edema in the face, lips, tongue, larynx and gastrointestinal system. Captopril is the first generated angiotensin-converting enzyme (ACE) inhibitor. Since the inhibition of ACE and consequently the angiotensin II level in plasma and tissues is reduced and quinine degradation is also inhibited by ACE, the level of bradykinin increases in plasma and tissues. It is thought to that the bradykinin causes edema due to vasodilation and increased vascular permaability. In this case report, we reviewed a 63-year-old patient, who hospitalized in the general surgery ward with the preliminary diagnosis of acute cholecystitis, developed AE after treated with 25 mg captopril for high blood pressure.

Keywords: Angoiedema, ACE inhibitor, Tongue

Introduction

AE is such a disorder, which manifests itself with the feeling of pressure and oedema covering the subcutaneous tissue and sometimes leads to life-threatening airway obstruction. Many etiological factors play a role in the aetiology of AE, such as drugs (especially; penicillins, non-streoid anti-inflammatory drugs-NSAIDs), foods, respiratory allergens, and physical factors. Angioedema due to ACE inhibitors has been reported to be observed between 0.1 and 0.42%[1-2]. ACE inhibitors are a widely used group of drugs.Although angioedema is known to be one of the side effects, angioedema that develops in single half of the tongue is a very rare condition. Therefore, we present a case of AE in one half of the tongue due to ACE inhibitor use.

Case Presentation

A 63-year-old female patient was hospitalized in the general surgery department of our hospital with the diagnosis of acute cholecystitis. The patient was consulted due to swelling of the tongue, difficulty in breathing and speech. Her medical and surgical histories are unremarkable and there is no history of allergy. There is no history of unusual food intake or drug use. It was learned that the patient was consulted by her doctor because of high blood pressure (184/92 mmHg) and 25 mg Captopril was given by the nurse.

Physical examination revealed significant edema (approximately 5*5 cm) in the right half of the tongue (Figure 1). Her vital signs were; systolic blood pressure: 138/78 mmHg, pulse: 86/min, fever: 36.7°C, pulse oxygen saturation: 96%, and respiration rate: 18 / min. The patient was anxious.

The patient underwent 120mg of methylprednisolone, 45.5 mg ofpheniramine, 50mg of ranitidine. During her follow-ups, I observed the airway of the patient with minimal increase in oedema. After an hour of first treatment, I gave her 8mg of dexamethasone and 50 mg of ranitidine again and the patient, who underwent cold treatment application, expressed herself relieved in breathing and speaking. The patient who responded to the treatment was observed to have decreased oedema at approximately 50% after 8 hours and her oedema was completely normalized on 24th hour.

Patient underwent close monitoring for airway and vitals. Medical treatment was started for captopril induced AE, and 120 mg methylprednisolone, 45.5 mg pheniramine and 50 mg ranitidine were administered intravenously.There was minimal increase in edema during the follow-up period. One hour after the initial treatment, 8 mg Dexamethasone and 50 mg Ranitidine were repeated intravenously. The patient described relief in breathing and speech during follow up.After 8 hours, edema decreased by 50% and edema completely returned to normal at 24 hours.

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Figure 1. Unilateral angioedema in the half of the tongue

Discussion

The presence of various forms of AE and its occurrence in different tissue locations indicate the presence of underlying genetic mutations, allergic reactions and non-allergic reactions[3]. AE is classified as allergic (mast cell or IgE-mediated) or non-allergic (bradykinin-mediated)[4].

Due to the inhibition of ACE, the level of bradykinin in plasma and tissues is elevated, since the angiotensin II level in plasma and tissues is reduced and quinine degradation is also inhibited by ACE. It is thought that bradycinine leads to edema due to vasodilatation and increased vascular permaability. Therefore, it is thought that the pathophysiology of ACE-induced angioedema does not occur immunologically because there is no detectable antibody against the ACE inhibitor[5].

ACEI-induced AE may begin at the first use without dose-dependent, and as well as may develop after months or years during ACEI use. ACE-related AE is often seen in the head and neck region such as the face, oral mucosa, tongue, lip, pharynx and larynx[3-6].

As in our case, cases of AE due to ACE inhibitor in the half of the tongue have been rarely observed[7].

When the literature review is performed, it is seen that; it is not usually considered in the first encounter among physicians and is not often taken into consideration even in fatal situations. In severe cases, life-threatening airway obstruction, respiratory failure and asphyxia death have been reported[8-9].

ACE inhibitor-induced angioedema is a life-threatening condition and no specific treatment has been described[10]. In the management of these patients, it is important to protect airway first, and in severe cases endotracheal intubation and tracheostomy may be needed.In our case, we did not need advanced airway intervention because of the response to medical treatment.Although treatment applications consist of epinephrine, steroids, H1 and H2 receptor blockers, Icatibant (bradykinin 2 receptor antagonist) has been used in AE treatment in recent years.

Treatment applications consist of epinephrine, steroid, H1 and H2 receptor blockers, but in recent years Icatibant (2 receptor antagonists of bradykinin) has been used in the treatment of Hereditary Angioedema (HAÖ).

Conclusion

ACE inhibitors should be remembered as one of the most common causes of AE, which can be life-threatening.

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Case Report
Eurasian Journal of Critical Care

A Case Report: Renal Colic in the Pelvic Kidney

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Abstract

Renal colic is a frequent cause of application to the emergency room. Although it is a condition that requires conservative treatment, it can often be confused with clinical conditions that may require surgical intervention and complications such as urinary tract infection and acute kidney failure mayor cur. In this case, were viewed 49 year old male patient who has lower abdominal pain due to ureteral stone and did not know that he had a pelvic kidney. Because of leukocytosis and vomiting, acute appendicitis was considered as prediagnosis, but abdominal CT imaging of patient showed a left pelvic kidney and 5 mm calcule in the middle part of the ureter.

Keywords: Calculus, Pelvic kidney, Renal ectopia

Introduction

Renal colic is afre quent cause of application to the emergency room. Although it is a condition that requires conservative treatment, it can cause severe pain to agitate thepatient. It can often be confused with clinical conditions that may requires urgical intervention, such as abdominal aortica neurysm rupture and acute appendicitis. Besides complication ssuch as urinary tract infection and acute kidney failure mayoc cur[1]. Therefore, management of these patients in the emergency department is important. In addition, anatomic variations mayoc casionally complicate diagnosis in patients presenting with abdominal pain. In this case, were viewed 49 year old male patient who has lower abdominal pain due to ureteral stone and did not know that he had a pelvic kidney.

Case Presentation

A 49-year-old male patient was admitted to the emergency department with complaints of abdominal pain that began several hours earlier. There was significant pain in the right lower quadrantand suprapubic region of abdomen. The pain was colic and accompanied by vomiting. He had no flank pain. He had no known disease. He did not have a history of surgery and no drug use. Her vital signs (blood pressure: 130/80 mm / Hg, pulse: 92 / min, oxygen saturation: 96%) were stable. Physical examination revealed sensitivity and rebound in the right lower quadrantand suprapubic region. Costo vertebra langle sensitivity was not present. In laboratory parameters, leukocyte count was 13.9 10^3 / uL and neutrophil count was 11.5 10^3 / uL Hemoglobin was 11.4 g / dL. Liver and kidney function test sand electrolytes were with in normal range. Urinean alysis revealed 3+ erythrocytes. Diagnostic ultrasound was not performed due to malfunctioning ultrasound device. The patient's examination findings were accompanied by vomiting and leukocytosis, so an abdominal tomography with intravenous contrast was performed with acute appendicitis andrenal colic pre-diagnoses. Abdominal CT showed a left pelvic kidney with a malrote appearance. Grade II pelvicalic ealectasia was observed in the left kidney and a 5 mm calcule was observed in the middle part of the ureter. Appendix size was with in normal range and no signs of appendicitis were detected.

Analgesic treatment was performed in the patient who was diagnosed as renal colic by tomography. The patient, who was relieved after the follow-up, was discharged with the suggestion of polyclinic control and analgesic prescription. In follow up, ureteral calculifell into the bladder and the dilatation of the pelvicaly ceal system regressed a few days later.

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Figure 1. Lower abdominal tomography with intravenous contrast (ureteral calculi)

Figure 2 Intravenous contrast-enhanced lower abdominal tomography (Pelvicaliceal dilatation)

Discussion

The kidneys are retro peritoneal organs surrounded by adipose tissue. The yare located between the 12th thoracic and 3th lumbar vertebra. Pelvic ectopia accounts for 1 of each 2500 births[2]. Pelvic kidneys are often asymptomatic and incidentally discovered. Pelvic kidneys are usually small in size and irregular in shape, with varying rotation, extrarenal calices and multiple vascularization. Due to abnormal rotation, shape and vascularization, pelvic kidneys cause complication ssuch as urinarytractinfections (UTI), kidney stones, uretero-pelvic joint obstruction, and vesico ureteral reflux[3].

In our case, a 49-year-old patient did not know that he had a pelvic kidney. He was admitted with abdominal pain with out flank pain. Because of leukocytosis andvomiting, acute appendicitis was considered in the fore ground. The patient was found to have anatomic variations, pelvic kidney and pelvicaly ceal dilatation of this kidney due to a 5 mm stone in the ureter.

Conclusion

Anatomic variations should be kept in mind when approaching abdominal pain patients for examination and imaging methods. In a patient with a pelvic kidney, renal colic pain may be considered only in the lower abdomen and these differences should not be ignored when evaluating the patient.

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