

## THE IMPORTANCE OF MORPHOLOGICAL-CLINICAL CONSISTENCY: THROUGH THE REVIEW OF GASTRIC BIOPSIES IN NORTH-EASTERN ANATOLIA REGION IN TURKEY

TÜRKİYE'DE KUZEY-DOĞU ANADOLU BÖLGESİNDEKİ MİDE BİYOPSİLERİNİN İNCELENMESİ İLE: MORFOLOJİK-KLİNİK UYUMUN ÖNEMİ

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### ÖZ

**AMAÇ:** Çalışmamızda Türkiye'deki Kuzey-Doğu Anadolu bölgesindeki gastrik biyopsileri genel olarak gözden geçirmeyi amaçladık; malignite veya displazi yüzdeleri, biyopsi tekrarı önerilerinin nedenleri ve alınmışsa ikinci biyopsi sonuçları gibi.

**GEREÇ VE YÖNTEM:** İki merkezde 3 patoloğ tarafından incelenen 1840 gastrik biyopsi geriye dönük olarak incelendi. Malignite veya displazi yüzdeleri, biyopsi tekrarı önerilen vakalar, önerilerin nedenleri ve yeniden alınan biyopsilerin sonuçları incelendi. İkinci biyopsi sonuçlarında displazi, malignite ve gastrit anlamlı sonuç olarak kabul edildi.

**BULGULAR:** Olgularımızın yaş ortalaması  $52.9 \pm 16.6$  yıl (18-95 yıl) idi. 1012 hasta (% 55) kadın, 828 hasta (% 45) erkekti. 1840 vakanın 90'ında, klinik olarak malignite şüphesi için biyopsi alındı. Bu olguların 35'i malignite olarak raporlandı. 1840 vakanın 61'ine biyopsi tekrarı önerildi. Yeniden biyopsi tavsiyelerinin sebepleri malignite şüphesi - klinik, malignite şüphesi - morfolojik ve yetersiz (yüzeysel) biyopsiler olarak üç gruba ayrıldı. İkinci biyopsi alınan 26 olgunun 12'si (% 46.2) malignite ve gastrik displazi olarak bildirildi. 26 olgunun sadece 2'sinde (% 7.6) sonuç anlamlı değildi (yetersiz biyopsi).

**SONUÇ:** Endoskopik bulgular tanı hakkında bilgi sağlarken, patognomonik değildir ve histolojik olarak onaylanması gerekir. Patoloğ ve gastroenteroloğ arasındaki iyi bir diyalog ve yakın çalışma ilişkisi, klinik-morfolojik tutarlılık, morfolojik-klinik tutarlılık ve nihai teşhis için önemlidir.

**ANAHTAR KELİMELEER:** Gastrik biyopsiler, Malignite, Biyopsi tekrarı

### ABSTRACT

**OBJECTIVE:** In our study we aimed to make a generally review of gastric biopsies in North-Eastern Anatolia region in Turkey such as; percentages of malignancy or dysplasia, reasons of re-biopsy recommendations and results of second biopsies if taken.

**MATERIAL AND METHODS:** 1840 gastric biopsies which examined by 3 pathologists at 2 centers were analyzed retrospectively. Percentages of malignancy or dysplasia, cases which were recommended for re-biopsies, reasons of recommendations and results of re-biopsies were examined. In the results of the second biopsies, dysplasia, malignancy and gastritis were accepted as a significant result.

**RESULTS:** The mean age of our cases was  $52.9 \pm 16.6$  years (range: 18-95 years). 1012 (55%) patients were females and 828 (45%) patients were males. In 90 out of 1840 cases, biopsies were taken for suspect of malignancy, clinically. 35 of 90 cases were reported as malignancy. In 61 out of 1840 cases re-biopsy were recommended. Reasons of recommendations for re-biopsy categorized in three groups: suspect of malignancy- clinically, suspect of malignancy- morphologically, insufficient (superficial) biopsies. 12 (46.2%) of 26 cases which were taken second biopsies were reported as malignancy and gastric dysplasia. Only in 2 (7.6%) of 26 cases the results were insignificant (insufficient biopsy).

**CONCLUSIONS:** Endoscopic findings provide information about the diagnosis but are not pathognomonic which also need histological confirmation. Close working relationship and a good dialogue between the pathologist and the gastroenterologist is essential for clinical-morphological consistency, morphological-clinical consistency and final diagnosis.

**KEYWORDS:** Gastric biopsies, Malignancy, biopsies

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## INTRODUCTION

Gastric cancer is fifth most common cancer and the third reason as the cause of death from cancer in the world (1,2). Therefore the early detection and treatment of gastrointestinal pre-neoplastic lesions has become thoroughly important. And it is known that early detection and treatment of these lesions significantly improve patient survival. Endoscopy used for early diagnosis is a technical system that displays the gastrointestinal tract directly (3).

Although different findings can be found during endoscopy; there is no consensus about the correlation of gastric endoscopic findings and histopathological features (1). There are some studies that investigated the accordance between endoscopic and histopathological features for gastritis, *Helicobacter pylori* infection and rarely malignant lesions (1,3-6). Histopathological examination of biopsy specimens are used to verify endoscopic findings in suspected malignancy or to rule out benign seeming lesions endoscopically (7,8).

In our study we aimed to make a generally review of gastric biopsies in North-Eastern Anatolia region in Turkey such as; percentages of malignancy or dysplasia, reasons of re-biopsy recommendations and results of second biopsies if taken.

## MATERIAL AND METHODS

1840 gastric biopsies which examined by 3 pathologists at 2 centers were reviewed retrospectively and included the study. Data was collected from two pathology departments. Parameters, such as gender and age of the patients and clinical information were obtained from information systems of hospitals. Haematoxylin and Eosin (H&E) stained slides were reviewed by three pathologists. Percentages of malignancy or dysplasia, cases which were recommended for re-biopsies, reasons of recommendations and results of re-biopsies were examined. Reasons of recommendations for re-biopsy categorized in three groups: suspect of malignancy- clinically, suspect of malignancy- morphologically, insufficient (superficial) biopsies. In the results of

the second biopsies, dysplasia, malignancy and gastritis were accepted as a significant result.

Data analysis was performed using SPSS 20.0 program. In the evaluation of results descriptive statistics were shown in the form of mean  $\pm$  standard deviation, nominal variables was shown as number of cases and the percentage (%).

### **Ethical Approval:**

Our study was ethically approved by Erzurum Region Training and Research Hospital ethic committee with decision number 2017/11-84 and date October 16, 2017.

## RESULTS

The mean age of our cases was  $52.9 \pm 16.6$  years (range: 18-95 years). 1012 (55%) patients were females and 828 (45%) patients were males. Multiple biopsies were taken in 46.2% percent of cases. The mean size of biopsies was 2.8 mm (range: 1mm-9mm).

In 90 out of 1840 cases, biopsies were taken for suspect of malignancy, clinically. 35 of 90 cases were reported as malignancy, such as; adenocarcinoma, intramucosal carcinoma, adenocarcinoma with neuroendocrine differentiation. 6 of 35 cases were reported as gastric dysplasia, high grade and 3 of them were reported as gastric dysplasia, low grade.

In 61 out of 1840 cases re-biopsy were recommended. Reasons of recommendations for re-biopsy categorized in three groups: suspect of malignancy- clinically, suspect of malignancy- morphologically, insufficient (superficial) biopsies. Reasons of recommendations shown in (Table 1). Although, re-biopsy was recommended to 61 patients second biopsy was taken from only 26 of them (42.6%). In the examination of results of the second biopsies, dysplasia, malignancy and

**Table 1:** Reasons of recommendations in biopsies.

Reasons of recommendations	Number of cases(n) and percentage (%)
Suspect of malignancy-clinically	39 (63.9%)
Suspect of malignancy- morphologically	13 (21.3%)
Insufficient (superficial) biopsies	9 (14.8%)
Total	61 (100.0%)

gastritis was accepted as a significant result. Results of second biopsies shown in (Table 2). 12 (46.2%) of 26 cases which were taken second biopsies were reported as malignancy (5 cases adenocarcinoma/1 case intramucosal carcinoma) and gastric dysplasia (2 cases low grade/4 cases high grade). Only in 2 (7.6%) of 26 cases the results were insignificant (insufficient biopsy). 3 out of 6 cases which were diagnosed as malignancy after second biopsies were recommended for suspect of malignancy- morphologically, 2 out of them were recommended for suspect of malignancy-clinically and 1 of them was recommended for insufficient (superficial) biopsy.

**Table 2:** Classification of results in second biopsies.

Results	Number of cases(n) and percentages (%)
Malignancy;	6 (23.1%)
• Adenocarcinoma	• 5
• Intramucosal carcinoma	• 1
Gastric dysplasia	6 (23.1%)
• Low grade	• 2
• High grade	• 4
Gastritis	12 (46.2%)
Insignificant result (insufficient biopsy)	2 (7.6%)
Total	26(100.0%)

## DISCUSSION

It is known that early detection and treatment of gastrointestinal pre-neoplastic lesions are significantly improve patient survival (3). Therefore, consistency between endoscopic findings and morphologic features is important. There were recent studies in literature examined this concordance (1,3,5,8,9). Poor correlation was found in many studies between endoscopic findings and histologic changes while good correlation was demonstrated only in the normal endoscopic findings or severe types of gastritis (9,10).

In a study the sensitivity and specificity of endoscopic and histological diagnosis for the atrophy were found as 61.5 and 57.7% in the antrum, and 46.8 and 76.4% in the corpus of the stomach (10). In another recent study the sensitivity and specificity of histologic and endoscopic features for intestinal metaplasia were found as 24.0% and 91.9% for the antrum, and 24.2% and 88.0% for the corpus of the stomach (11).

If we examine the subject in terms of gastritis we can see similar results. In a recent study

which studied on 400 patients, a inconsistency between endoscopy and histology was found in 136 (34%) cases, 56 of them had normal endoscopy but abnormal histology and 80 of them had abnormal endoscopy but normal histology (12).

In a study which was evaluated pediatric endoscopic biopsies comparing endoscopic findings with histologic diagnosis, 69.9% of cases were completely congruent, and 90.4% were partially congruent and the compliance rate of gastric biopsies was found as 73.2% (13). In a recent study from Turkey 54 of 56 subjects who were suspected of malignancy after gastric endoscopy were diagnosed as malignancy histopathologically (5). And in a different study from Turkey 231 patients who had suspicious lesions for malignancy in endoscopy were examined. They were found 59.4% rate of malignancy for lower gastrointestinal system biopsies and 17.7% for upper gastrointestinal system biopsies (3).

In our study, in 90 cases biopsies taken for suspect of malignancy and 35 of them (38.8%) malignancy were confirmed histologically.

Unlike other studies, in this study the relationship between the pathologist and the clinician is viewed from a different angle. Other studies in literature focused on researching the accordance between endoscopic findings and histopathological diagnoses (1,3,8). Our study based on morphological features firstly and then clinical relation. We also focused on cases which had clinical-morphological discordance. In our study cases which were recommended for re-biopsies, reasons of recommendations and results of re-biopsies were examined, differently from recent studies. In our study 50% of cases who were diagnosed as malignancy after second biopsy were recommended for suspect of malignancy-morphologically. This situation showed that morphological-clinical consistency is as important as clinical-morphological consistency. On the other hand, 57.4% of cases which recommended for re-biopsy no biopsy was taken. This is indicating that morphological-clinical compliance is not

well understood.

Endoscopic findings provide information about the diagnosis but are not pathognomonic which also need histological confirmation. Close working relationship and a good dialogue between the pathologist and the gastroenterologist is essential for clinical-morphological consistency, morphological-clinical consistency and final diagnosis.

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