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A case of acute colonic pseudo-obstruction following total hip arthroplasty

Total kalça artroplastisinden sonra gelişen akut kolon psödo-obstrüksiyonu

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Akut kolon psödo-obstrüksiyonu ya da Ogilvie sendromu, mekanik bir patoloji olmamasına rağmen kalın bağırsakta tıkanıklık gelişmesidir. Yetmiş bir yaşındaki bir erkek hastada total kalça artroplastisi ameliyatından sonra ikinci günde karında şişkinlik, bulantı, kusma ve karın ağrısı şikayetleri başladı. Radyografilerde bağırsak dilatasyonu izlendi. Ağızdan beslenme kesildi ve nazogastrik dekompresyon yapıldı. Dört gün içinde hastanın klinik tablosu tamamen düzeldi. Bu sendromun önemli ortopedik girişimler sonucunda oluşabileceği akılda tutulmalı, tanı ve tedavisinde gecikilmemelidir.

Anahtar sözcükler: Artroplasti, replasman, kalça/yan etki; kolon hastalığı/etyoloji; kolon psödo-obstrüksiyonu/etyoloji/tedavi; ameliyat sonrası komplikasyon.

Acute colonic pseudo-obstruction or Ogilvie syndrome refers to the occurrence of colonic obstruction without the presence of any mechanical cause. A 71-year-old male patient developed abdominal distension, nausea, vomiting, and pain on the second postoperative day of total hip arthroplasty. Radiographs showed bowel dilatation. Oral intake was immediately ceased and nasogastric decompression was performed, after which all the symptoms and signs disappeared within four days. This syndrome should be borne in mind following major orthopedic interventions and be diagnosed and treated without delay.

Key words: Arthroplasty, replacement, hip/adverse effects; colonic diseases/etiology; colonic pseudo-obstruction/etiology/therapy; postoperative complications..

Acute colon pseudo-obstruction(ACPO) has a clinical presentation that mimics the symptomps, signs and radiologic findings of mechanical colon obstruction without a mechanical cause.[1]

İt's also known as Ogilvie syndrome,because it's first described by Ogilvie.[2,3] Althout it's a rare condition in orthopedic surgery (%0,3-3), it has a significant morbidity and mortality rate.[4]

Acute colon pseudo-obstruction is mostly seen after total hip arthroplasty and internal fixation done in vertebral surgeries and hip fractures.[5,6,7] To decrease morbidity and mortality rates and to accomplish early treatment; ACPO should always be considered in differential diagnosis of intestinal obstructions seen after orthopedic instrumentations.

Case presentation

Total hip artroplasty without cement was performed in a 71 year old male patient with a diagnosis of osteoartritis in left hip joint. Pre-operative evaluation revealed an aneurisym with a diamater of 4,5 cm in assending aorta and hypertension. The patient hadn't got a history of abdominal surgery and was not used to laxatives. İn the first day after operation the patient was mobilized ,and in the second day emesis, flotulens, no passage of stool and gas was reported by the patient. İn the physical

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examination the abdomen was swollen and tight; bowel sounds was hyperactive, metalic sounds was found positive but there was no stool in digital rectal examination, no mass was found in abdominal examination and also blood in stool test was negative. The plain X-Ray of abdomen in erect and lateral decubit positions showed diffuse gas and partial fluid accumulation in proximal colon (Figure 1). Laboratory results of the patient were as follows: White blood cell count (WBC):14.700/µl (Range: 4.0-10.3/ µl), Na 136 mmol/lt (Range:135-145 mmol/L), K:3,7mmol/L (Range:3,5-4,5mmol/L), Cl:100 mmol/L (Range:98-110).

Oral intake was stopped immediately and gastrointestinal system decompresion was done with a gastric sonda. After fluid-electrolyte replacement and twice daily enema; we started oral feeding. The patient was monitorized by serum electrolytes, complete blood count, intake-output chart and direct röntgenogram of abdomen. The mobilization was stopped at this periodassisted in bed exercises were ordered. At the fifth postoperatif day, gas&stool passege was reported and patient cavid stand up by the bed side. Symptoms of the patient gradually decreased and totally disappered at the postoperative 7th day. After the rehabilitation programme ended,he was externalized inthe 15th postoperatif day.

Discussion

ACPO is a rarer (0,3-3%);[5,7] but serious complication of orthopedic surgeries. The syndrome is thougt to be caused by increase in sympathetic activation or parasymphatic dysfunction or both.[5] Hubbard and Richardson proposed fluid-gas lock theory.[3] According to this theory with the effect of immobilization, the gas and fluid accumulation causes obstruction in colon and caecum, but our patient was mobilized in postoperatif first day and had normal bowel sounds. Male gender, bilateral knee arthroplasty and hip revision arhroplasty are also risk factors that are reported.[4,5] Our patient had only one of these factors.(male gender)

The diagnosis of acute colon pseudo-obstruction is based on clinical symptoms and signs. The cardinal findig is the distansion of abdomen. Nause, emesis and pain in abdomen is seen less frequently.[1,5,8] The symptoms often present in the second, third or fourth postoperatif day. İn direct x-ray of abdomen, the gas accumulatin in bowels is especially seen as

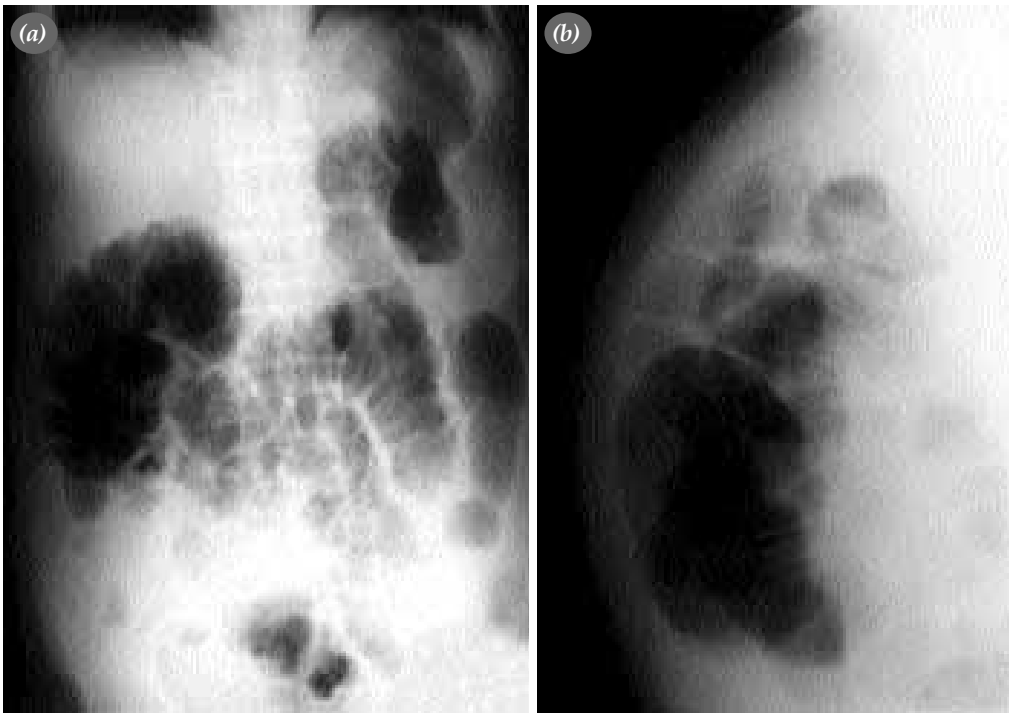

Figure 1. **(a)** Obstruction sign on plain x-ray of abdomen in erect
(b) Lateral decubit position showed fluid accumulation.

dilatation in caecum.[1,2,8] The most important clue in differentiating this syndrome, from paralytic bowel obstruction is the existance of bowel movemnts before the onset of symptoms.[5] Also the symptoms and clinical presentation is less serious profound in paralytic bowel obstruction and the treatment improves the condition in 24 to 48 hours.[3] In differential diagnosis of ACPO, ischemia of mesenteric arteries, heavy metal intoxication and mechanical bowel obstruction should be considered.[8] In our case, the existance of bowel sounds after the operation and the onset of symptoms at the second postoperatif day leaded us to ACPO diagnosis.

In the treatment of ACPO , to stop oral intake and narcotik medication, decompression of stomach with nasogatric tube, enema and rectal tube application and intravenous fluid replacement are immediate procedures to be done.[1,3,5,6] In unresponsive cases; endoscopic or open surgery for decompression is indicated after colonoscopy. Bowel necrosis and perforation are the most serious complications that increase the morbidity and mortality in ACPO.[1]

References

1. Dorudi S, Berry AR, Kettlewell MG. Acute colonic pseudo-obstruction. Br J Surg 1992;79:99-103.
2. Clarke HD, Berry DJ, Larson DR. Acute pseudo-obstruction of the colon as a postoperative complication of hip arthroplasty. J Bone Joint Surg [Am] 1997;79:1642-7.
3. Hubbard CN, Richardson EG. Pseudo-obstruction of the colon. A postoperative complication in orthopaedic patients. J Bone Joint Surg [Am] 1983;65:226-9.
4. Huo MH. What's new in hip arthroplasty. J Bone Joint Surg [Am] 2002;84:1894-905.
5. Petrisor BA, Petruccelli DT, Winemaker MJ, de Beer JV. Acute colonic pseudo-obstruction after elective total joint arthroplasty. J Arthroplasty 2001;16:1043-7.
6. Bederman SS, Betsy M, Winiarsky R, Seldes RM, Sharrock NE, Sculco TP. Postoperative ileus in the lower extremity arthroplasty patient. J Arthroplasty 2001;16:1066-70.
7. Iorio R, Healy WL, Appleby D. The association of excessive warfarin anticoagulation and postoperative ileus after total joint replacement surgery. J Arthroplasty 2000;15:220-3.
8. Stroberg AJ. Pseudo-obstruction of the colon: a complication associated with skeletal system trauma. Clin Orthop 1981;(156):187-8.