

An Unusual Mortal and Unpredicted Complication of Colonoscopy: Severe Subarachnoid Haemorrhage: Case Report

Kolonoskopinin Mortal ve Beklenmedik Bir Komplikasyonu: Ciddi Subaraknoid Kanama

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ABSTRACT Colonoscopy is a safe and routinely performed diagnostic and therapeutic procedure for different colorectal diseases. The most common complications are bleeding and perforation of colon. We herein report extremely rare cerebrovascular complication of colonoscopy that was resulted with death. Forty-seven-years-old female patient admitted to our hospital with complaint of long time persistent constipation. She had no haematological and systemic diseases which can cause haemorrhage. During colonoscopy, she had severe subarachnoid haemorrhage (SAH) that resulted mortality of patient. Most probably, increased intra abdominal pressure and increased blood pressure during colonoscopy resulted increased intracranial pressure and that might induce SAH from these arteriovenous anomalies. As a conclusion, although complications of colonoscopy are very rare in experienced clinicians, sometimes unexpected and extremely rare problems and mortal complications have seen during procedure. So all clinicians have to be aware of these rare problems and have to take precautions carefully.

Key Words: Colonoscopy; subarachnoid hemorrhage; mortality

ÖZET Kolonoskopi, kolorektal hastalıkların ayırıcı tanısında güvenli ve rutin olarak kullanılan tanı ve tedavi yöntemidir. Yaygın olarak görülen komplikasyonları kanama ve kolon yırtılmasıdır. Biz bu yazıda, kolonoskopinin ölümlü sonuçlanan oldukça nadir bir serebrovasküler komplikasyonunu sunduk. Kırkyedi yaşında kadın hasta, uzun süredir olan inatçı kabızlık şikâyeti ile hastanemize başvurdu. Kanamaya neden olabilecek hematolojik ve sistemik hastalığı bulunmuyordu. Kolonoskopi esnasında ölümlü sonuçlanan ağır subaraknoid kanama (SAK) gelişti. Kolonoskopi sırasında sıklıkla intraabdominal basınç artışı ve kan basıncı artışı intrakranial basınç artışına neden olur ve bu da arteriovenöz anomalisi olan hastalarda SAK'a neden olabilir. Sonuç olarak, deneyimli klinisyenler tarafından yapıldığında kolonoskopi komplikasyonları nadir olmakla birlikte bazen kolonoskopi esnasında beklenmedik ve mortal komplikasyonlar gelişebilir.

Anahtar Kelimeler: Kolonoskopi; subaraknoid kanama; ölüm oranı

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Colonoscopy is a familiar and well-tolerated procedure and is widely used as a diagnostic and therapeutic modality by both gastroenterologists and surgeons. Although perforation and haemorrhage are

the most common complications, extra colonic or visceral (spleen) injuries are rare but potentially lethal complications.¹ Sometimes very rare and life threatening unusual complications were reported. For example pneumothorax, pneumomediastinum, pneumoperitoneum and extensive subcutaneous emphysema, ischemic colitis and spleen rupture.²⁻⁴

But in literature, there was very rare clinical report about cerebral or neurological event after colonoscopy. We report a very rare case of subarachnoid bleeding that resulted with mortality after colonoscopy.

CASE REPORT

Forty-seven-years-old female patient admitted to our hospital with complaint of long time persistent constipation and 10 kg weight lost in 6 month. Together with these complain, she had persistent left lower quadrant abdominal pain. So to evaluate and make diagnosis clear, colonoscopy had been planned.

In patient's medical history, she only had controlled hypertension for 6 year and had used 5 mg amlodipine. She had no known systemic chronic and haematological diseases which has increased bleeding tendency. Complete blood count, platelets, bleeding time, thrombin and activated prothrombin time were normal. She had never used acetylsalicylic acid and warfarin. We did not record any risk for increased bleeding tendency. Direct X ray graphy of abdomen and abdominal and pelvic ultrasound examination was revealed as normal to make abdominal pain differential diagnosis.

Before colonoscopy, her physical (cardiovascular and respiratory) examination was normal. Arterial systolic/diastolic tension was 140/75 mmhg and pulse was 85 beat/minute. After 3 mg midazolam premedication, colonoscopic evaluation had been preceded. During the end of colonoscopic examination, she had lost her consciousness and had bilateral upper and lower

extremity contractions. After she had respiratory arrest, she resuscitated and mechanically ventilated. During resuscitation, her systolic and diastolic blood pressure was 160/90 mmhg and heart rate was 110 beat minute.

Neurological examination revealed flexor response in upper extremities and extensor response in lower extremities to painful stimuli (decorticate posture) in intensive care unit. She had bilateral abnormal babinsky reflexes. Intravenous mannitol infusion and dexamethasone treatment had been ordered immediately. In cranial computerized tomography, there was a huge subarachnoid bleeding in all meningeal cisternay, sulcus. Also these bleeding had been seen in 3rd and 4th ventricular also in bilateral occipital horn of lateral ventricles (Figure 1). We started the treatment of subarachnoid bleeding treatment immediately. She died all our intensive treatment regimens in 48 hours of treatment.

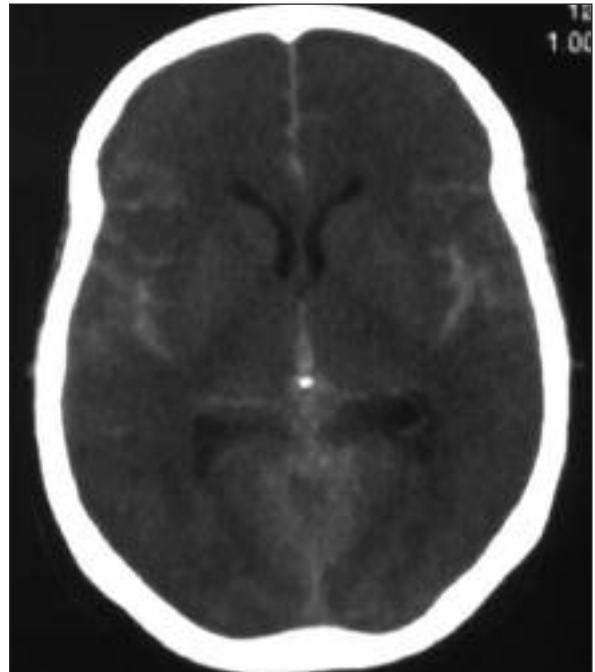


FIGURE 1: Cranial computerized tomography. Subarachnoid bleeding in all meningeal cisternay, sulcus and 3rd and 4th ventricular and bilateral occipital horn of lateral ventricles.

DISCUSSION

Subarachnoid haemorrhage (SAH) is a devastating neurological disorder which frequently leads to serious neurological impairment and is associated with high mortality and morbidity.⁵ Most important causes of SAH can be listed as trauma, hypertension, aneurysms, arteriovenous malformations, tumours, haematological problems (bleeding diathesis).⁶ Sometimes unpredicted reasons can cause SAH. But in literature, we could not find similar intracranial bleeding resulted with death either after-during colonoscopy or upper gastrointestinal endoscopy.

Colonoscopy is a safe and routinely performed diagnostic and therapeutic procedure for different colorectal diseases. The most common complications are bleeding and perforation of colon.⁴ In a study, the overall rate of complications during colonoscopy was 2.9/1000 procedures; the perforation rate after polypectomy was 1.8/1000; and the postpolypectomy bleeding rate was 6.4/1000. Most (67%) complications were recognized after discharge for the index procedure.⁷ Sometimes extremely rare but serious and potentially life-threatening complications of colonoscopy were reported. Splenic rupture, pneumothorax and massive hemoperitoneum were rarely reported.¹⁻³ Rathgeber et al reported a huge series of colonoscopy complications and they reported only one posterior circulation stroke and this case was not resulted with death.⁸

In some studies, age, history of stroke, hypertension, hyperlipidemia, anticoagulated patients

with atrial fibrillation and family history of vascular disease may increase the risk of stroke during colonoscopy or endoscopy.⁹ Before these procedures, all these parameters should be controlled by endoscopist. In our patient, we did not recognize any contraindication to this procedure. Patient had a mild hypertension that was under control. Sometimes some severe complications were reported during patient's preparations to colonoscopy. Such as hyponatremia and seizure after bowel preparations.^{10,11} We also did not detect any electrolyte imbalance before colonoscopy.

Elevation of intraabdominal pressure due to whatever mechanism affects all intraabdominal viscera and also causes elevation of intracranial pressure. Increased intracranial pressure causes encephalopathy and risk of neurological damage due to the sharp decrease in cerebral pressure.^{12,13}

Most probable cause of this massive SAH can be underlying cerebral arteriovenous malformations. Increased intra abdominal pressure and increased arterial hypertension during colonoscopy resulted increased intracranial pressure and that might induce SAH from these arteriovenous anomalies.

As a conclusion, although complications rates during colonoscopy are very rare in experienced clinicians, sometimes unexpected and extremely rare problems and mortal complications can be seen during procedure. So all clinicians have to be aware of these rare problems and have to take precautions carefully.

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