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CASE REPORT

A CASE OF GALLBLADDER PERFORATION IN ELDERLY WHO ATTEMPTED SUICIDE

ABSTRACT

Decrease in cognitive functions and tendency for depression in elderly patients result in suicide attempts, and this remains a major health problem especially in developed countries. Oral ingestion of various caustic substances for suicidal purposes are common, however, using a mixture of these substances is quite rare. Ingestion of household products may lead to injuries in the aero-digestive tract ranging in severity from mild to fatal. Moreover, the complex chemical composition of such products makes understanding the interactions between them almost impossible. We present an elderly patient with gallbladder perforation, who had ingested naphthalene and warfarin tablets (rat poison) dissolved in a cleanser (for window cleaning).

Key Words: Gallbladder perforation; Naphthalene; Warfarin.

OLGU SUNUMU

YAŞLI HASTADA İNTİHAR GİRİŞİMİ SONRASINDA SAFRA KESESİ PERFORASYONU

ÖZ

Özellikle yaşlı hastalarda azalan kognitif fonksiyonlar, depresyona eğilim ve neticesinde suisidal girişimler gelişmiş ülkelerde halen ciddi bir sağlık problemidir. İntihar amacı ile çeşitli kostik maddelerin oral alımı sık olmakla beraber bu maddelerin karıştırılarak kullanımı yaygın değildir. Evde kullanılan kimyasal ajanların içilmesi hava ve sindirim yollarında çok hafif şiddetten ölümcül seviyeye kadar çok çeşitli hasarlar oluşturabilir. Ayrıca maddelerin karmaşık kimyasal yapıları nedeni ile etkileşimlerini tam olarak saptamakta neredeyse imkansızdır. Biz burada ev deterjanı (cam silmek amaçlı) içinde, naftalin ve varfarin tabletlerini (fare zehiri) eriterek içen yaşlı bir hastada gelişen safra kesesi perforasyonu olgusunu sunduk.

Anahtar Sözcükler: Safra kesesi perforasyonu; Naftalin; Warfarin.

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INTRODUCTION

Tendency to depression and depleted cognitive functions eventually reveals suicidal approaches especially in elderly patients, yet this is still a major health problem in developed countries. Moreover in elderly patients, different kinds of drug use, because of chronic disorders, may cause interactions between drugs. For suicidal purposes, different kinds of caustic substances are frequently used, however, mixing and using of all these substances is still rare. Furthermore, because of the complex chemical compound of such drugs, understanding the interactions between them is almost impossible.

We present a case of elderly who had ingested cleanser (for window cleaning), naphthalene (Paradichlorobenzene), and warfarin tablets (rat poison) which caused gallbladder perforation.

CASE

As a result of acute depression, a physically fit and healthy male patient of 76 years old, who lives alone, and whose cognitive functions are active and there was nothing at the health controls include gallbladder one year before; dissolved and then drinked the mixture of cleanser (for window cleaning), naphthalene, and warfarin tablets (rat poison). When the patient was taken to the district hospital 6 hours after from this event by his relatives, with the symptoms of nausea and vomiting, his intravenous line was inserted, and oral active carbon was given but he couldn't tolerate it and the patient then admitted to our hospital cause of the abdominal pain began after eight hours from ingestion. During admission he mostly complained of abdominal pain. Physical examination revealed muscle tenderness, a mild defense and rebound. Laboratory findings were shown that WBC: 15700, Hg: 14 gr/dl, in the liver function tests AST and ALT minimally elevated, hemostasis parameters (INR and prothrombine time) were totally normal and the arterial blood gases analysis revealed mild respiratory alkalosis. Diffuse free fluid was observed in the abdomen during ultrasound and the patient was taken into theatre with the diagnosis of acute abdomen due to possible perforation. He underwent emergency laparotomy, during the exploration two liters of bile was found in the abdomen, despite the petechial areas on the serosa, the integrity of the stomach wall was normal. Though the gall bladder wall was bile painted and thinny. There was not a distinct perforation. As all other organs within the abdomen were normal it was decided that cholecystectomy should be performed. During the dissection of gallbladder from the liver, 1.5 cm hole was seen on the gallbladder wall at the liver side, and a leak of bile to the bladder wall was determined (Figure 1). Histopathological examination revealed intensive inflammatory changes of the gallbladder wall. Liver function tests become normal levels but hemostasis parameters minimally elevated in 36h and then become normal levels postoperatively. Following successful cholecystectomy, the patient was discharged on fifth postoperative day with normal blood picture.

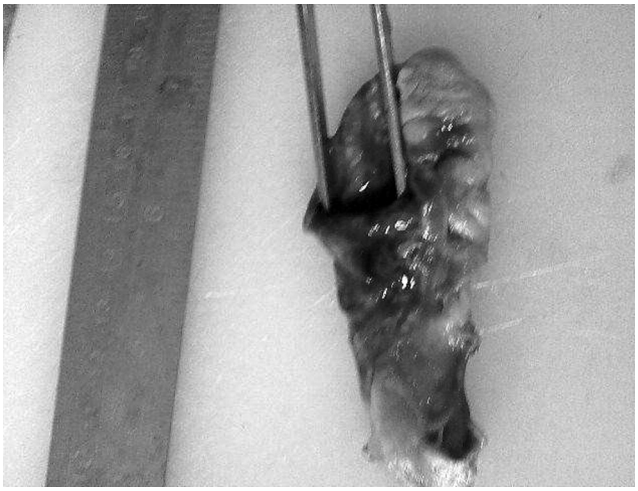

Figure 1— Gallbladder perforation due to drug intoxication.

DISCUSSION

As the society develops, the ascending population of the elderly brings the depressive tendencies with itself. The most common suicidal attempt is intoxications of drugs. The issue of drug-drug interactions is particularly relevant for geriatric patients because they are often treated with multiple medications for concurrent diseases. Due to the great variety of drug-induced adverse side-effects, the causative agent could not be easily determined.

Mothballs are made of naphthalene or paradichlorobenzene and labelled for use against mildew and moths (1). Naphthalene (Paradichlorobenzene) is aromatic hydrocarbon, white crystalline solids at room temperature and it doesn't dissolved in water but dissolved in alcohol (2). Exposure to naphthalene may be associated with greater medical toxicity than previously appreciated. Naphthalene was reported to cause vomiting, nausea, hepatic failure, severe hemolytic anemia, methemoglobinemia, pulmonary destruction (inhalant intake) renal failure and diffuse leukoencephalopathy. Especially for suicidal purposes intake of higher doses may cause of coma, seizures and death (1-6).

Ingestion of household cleaning products can produce various injuries to the aerodigestive tract ranging in severity

from very mild to fatal. In severe cases, organ perforation leading to death is possible. The extent of tissue destruction depends on the type of agent, its physical properties, concentration, duration of contact, and amount of substance. Accidental exposure to small amounts of caustic substances was found most often among children, whereas attempted suicide cases were exposed to large amounts of toxic substance and occurred exclusively in adults (7). Window cleansers are mainly contain different amount of isopropyl alchol and detergent with pH of 6 to 8. They obtain suitable environment to dissolve naphthalene. These materials are found in common household and commercial products that are easily accessible, inexpensive, and legally obtained. With oral intake it cause of mucosal and gastric irritation, nausea, vomiting, abdominally pain and diarrhea.

Rat poison tablets contain various proportion of warfarin. Warfarin is the most widely used oral anticoagulant in the world for patients with venous thrombosis, pulmonary embolism, chronic atrial fibrillation, and prosthetic heart valves (8). The therapeutic index for individual patients is narrow therefore, patients are closely monitored by international normalized ratio (INR) for prothrombin time. Early changes in prothrombin times do not reflect the full antithrombotic effects of warfarin, which are achieved by the 5th day in most patients after the functional clearance of prothrombin(half-life of approximately 50 h) (9). Adverse drug events are common with warfarin, which makes it leading cause of drug-induced hospital admissions (10), but warfarin and naphthalene interactions are still unknown.

Gallbladder perforation probably occurs in only 3%–10% of the patients with acute cholecystitis (11), and 2% of patients undergoing cholecystectomy are found to have perforation of the gall bladder (12). However gallbladder perforation in the absence of stones is uncommon, and idiopathic perforation of the gallbladder is extremely rare (13) In 1934 Niemeier classified perforation of the gallbladder into three types: type 1, acute free perforation (with generalized peritonitis); type 2, subacute perforation (with abscess formation); and type 3, chronic perforation (with fistula formation) (14). In the aged population perforation of the gallbladder is not an uncommon complication of acute cholecystitis. Idiopathic perforation of the gallbladder is a rare event, and the underlying mechanisms are unknown. In Namikawa's study they found that the mean age of the patients with idiopathic gallbladder perforation was 70 years and pre-existing systemic diseases such as hypertension, cerebral infarction or hemorrhage, renal failure, respiratory failure, and malignancy were reported in 35% of the patients. The anatomic location of the perforation was the fundus in 16 (53.3%) patients, the body in 13 (43.3%), and the neck in 1 (3.3%) (15). Anatomically, the fundus is the least vascularized gallbladder region, implying that vascular changes and ischemia are probably crucial factors in the pathogenesis of perforation (11).

In conclusion in the developed countries elderly population are gradually increasing. In elderly group the most common suicidal attempt is intoxications of drugs. The intake of this mixture might cause produce various injuries to the different systems as the aerodigestive or hepatobiliary. In this respect the clinicians must be aware of unexpected outcome in those patients.

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