MULTIPLE BRANDT SPLINTERS RETAINED IN THE BODY OF A ROMANIAN VETERAN FROM THE SECOND WORLD WAR: A CASE REPORT

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Keywords: *Brandt, splinters, Second World War*

Abstract: *We present the case of a 94-year old male patient, Romanian veteran from the Second World War, with multiple Brandt splinters retained in the body, which had not caused any major complications for 73 years.*

INTRODUCTION

Romania mobilized over 800,000 people in the Second World War.(1) Many of the soldiers who lived to see the end of the war on 9 May 1945 continued to carry metal splinters, painful marks of the war, in their bodies for the rest of their lives.

A large number of people were injured during the Second World War by splinters. In most cases, these metal fragments remained clinically silent, but sometimes caused delayed complications.(2)

CASE REPORT

Patient S.S., 94 years of age, known with grade I essential arterial hypertension, controlled by treatment, rheumatoid arthritis, generalized arthrosis self-treated with NSAIDs daily, presented with diffuse abdominal pain, onset 3 weeks before, accompanied by lack of appetite and nausea.

The patient also complained of chronic intermittent stabbing pain in the lower lumbar zone and at the hip; the patient declares that in these areas he had Brandt type splinters retained ever since the Second World War.

The patient supports his statement with documents from the Archives of the Romanian Ministry of Defense, which evidence his participation in the Second World War between 7 September 1944 – 27 October 1944, enrolled in the 9th Mountain Battalion, and also his injury by Brandt splinters on the 27th of October 1944.

Objective examination evidences a patient with moderately altered state, underweight, zygomatic facies, iris coloboma in the right eye, pale and dehydrated skin and mucosa, sensitivity at epigastrium palpation, without signs of peritoneal irritation. Splinters are not felt by palpation.

Laboratory analyses evidence mild leucocytosis (12000/cmm). Upper digestive endoscopy evidences an active duodenal ulcer.

A series of X-rays are taken that reveal irregular 1-3 cm metal fragments located in the lower lumbar area (figure no. 1 A and B), at hip level (figure no. 2), and in the upper third of the thigh (figure no. 3).

The patient shows a very old x-ray picture (seemingly taken around the year 1950), partially damaged and without identification data, in which a radio-opaque oval formation is seen, which the patient says to be subcutaneous splinter, extracted at the time because of an abscess around it.

The patient is admitted to our hospital and is medically treated, with a good evolution. For the chronic pain caused by the splinters paracetamol is recommended to be taken when needed.

Figure no. 1. Brandt splinters retained in the lower lumbar area (arrow) A – antero-posterior view; B – right side view

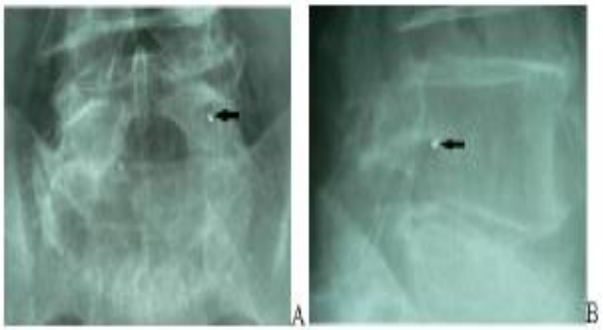

Figure no. 2. Brandt splinters retained in the left hip (arrow)

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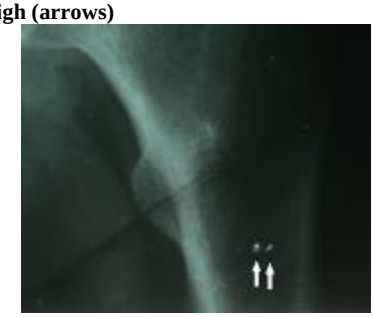
Figure no. 3. Brandt splinters retained in the upper third of the left thigh (arrows)



The patient is discharged after 12 days in a better state. About 2 months later, the patient is brought to the hospital by family, in a severe, obnubilated condition, BP=64/42mmHg, AV=92bpm, severely dehydrated skin and mucosa, clinical signs of acute surgical abdomen. Hetero-anamnesis reveals that the patient had complained of severe abdominal pain lately and totally refused solid food in the past 5 days. The patient did not observe the food and drug regimen prescribed, continuing to drink fizzy beverages and taking NSAIDs for the chronic pain. The clinical diagnosis of perforated duodenal ulcer is established. Preoperative hemodynamic rebalancing failed and the patient went into non-ressuscitable cardio-respiratory arrest 2 hours after entering the hospital.

This is how the story of a Second World War veteran ends, probably like the ones of many other soldiers overcome by chronic pain, loneliness and oblivion.

DISCUSSIONS

Brandt was an artillery short-barrel gun used for launching projectiles on objects situated behind an obstacle. The projectiles had a curved trajectory, with a shot angle over 45°, were low speed and had limited action radius. The projectiles had a thick coating of steeled cast iron, and a core of very explosive trinitrotoluene. The fragments resulted from the explosion (splinters) varied very much in size. Because of their irregular shapes, they introduced into the wound debris of clothing, equipment, earth, thus increasing the risk of infections (figure no. 4).(3)

Figure no. 4. Wound by splinter (from: Atanasiu I, Mareş E. Chirurgia în campanie (Battlefield surgery). Bucureşti: Editura Militară a Ministerului Forţelor Armate ale R.P.R.; 1956. p. 65)

A great proportion of injuries during Second World War were produced by splinters, both on the battlefield and during attacks on civilians. The exhaustive excision of splinters was not performed as a rule, and splinters that did not cause pain, suppuration or fistulas were left in place.(5)

In most cases, the splinters from the Second World War remained clinically silent, but sometimes they caused late major complications. In PubMed and Medline, for the period from 1980 up to date, there are 15 cases with sequelae after foreign body acquisition during the 2nd world war. A study on 159 patients about complications associated with foreign bodies after Second World War injuries shows that complications to the metal objects were diagnosed in 3 cases (2%): one patient with grenade splinter migration into the choledochal duct, one case with pseudotumoural tissue reaction, and one patient with late osteomyelitis. The time from injury to clinical presentation varied from 56 to 61 years.(2) There were reported cases of injured patients through grenades in Second World War, bearers of splinters, who presented after 5 decades clinical symptoms of a thrombophlebitis and periphlebitis. The supposed thrombus proved to be metallic fragments.(6)

Another characteristic of the grenade splinters is carcinogenic potential through inflammation-related carcinogenesis, with one of the longest latency periods of tumor development described.(7,8)

In the case of our patient, the splinters caused no major complications for a period of 73 years and were not the direct cause of the patient's death.

CONCLUSIONS

The organism tolerance to foreign bodies may be sometimes very long term, like in our case. However, physicians should be aware of the presence of hidden foreign bodies and their different possible late reactions.

The chronic pain of our elderly veteran patient, partly due to retained splinters, made him take high doses of painkillers and antiinflammatory drugs, with possible fatal effects at his age. A holistic approach, careful follow-up by the family physician and the family are therefore important factors in caring for our veterans.

And not last, we bring homage and honor the memory of our brave predecessors who fought for Romania.

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