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SIMPLE FRACTURE = GOOD CLINICAL EVOLUTION? REGARDING A CASE ASSESSMENT IN CIVIL LAW

Abstract: Fractures of the limbs are one of the most common injuries resultant from road accidents, and so, the assessment of these situations is also very probable in civil law. Normally, they have a good evolution but the development of complications can, in some situations, extend the disease periods for several years and lead to severe handicapping. The authors underwent a forensic bodily damage expert assessment under civil law of a male, 24-years-old who suffered a car accident in 2001 with trauma of the left lower limb and resulting fracture of the leg bones. Following the event and during the next 6 years he was subjected to several surgeries (10 procedures) due to the large number of complications who demanded a very large incapacity period (2432 days) with the consolidation date being established several years after the traumatic event. The objective of this study is to add to the body of information on the forensic assessment of similar cases and also seek to call attention to the treatment of closed leg fractures.

Keywords: Leg fracture; handicap; civil law.

Introduction

Fractures of the limbs are one of the most common injuries resultant from road accidents, and so, the assessment of these situations is also very probable in civil law. Normally, they have a good evolution, mainly in cases where joints are not affected, with almost any resulting sequelae and not very long periods of incapacity. On the other hand, even when those fractures are not complex, the development of complications [1] can, in some situations, extend the disease periods for several years and lead to severe handicapping. When situations like this take place in young people, it results in spending a great period of time between treatments which can be decisive for the future of the victim. This study is intended to add to the body of information on the forensic assessment of similar cases especially regarding the long incapacity periods [3]. We also seek to call attention to the treatment of closed leg fractures, that despite of being common injuries, sometimes remain challenging to treat [2].

Case report

The authors present a case of a male, 24-years-old, locksmith by trade, who underwent a forensic bodily damage expert assessment under civil law in 2008 in the

Department of Clinical Forensic Medicine of the Centre Branch of the National Institute of Legal Medicine Coimbra – Portugal). It reports to a hit and run car accident on July of 2001, when he was 17-year-old, with trauma of the left lower limb and resulting fracture of the tibia and fibula (Figure 1). Initially he was treated with a conservative approach using a cast immobilization (Figure 2), but due to vicious consolidation had to be submitted to intramedullary nailing during 2002 (Figure 3). One month after the surgery, the nailing material fractured (Figure 4) and had to be replaced by plate and screws (Figure 5). In the following months he was subjected to more surgeries with a 3rd in intramedullary nailing (Figure 6). In February of 2005, because of the development of a large number of complications (tibial pseudarthrosis and osteomyelitis) (Figure 7, 10 & 11) he was submitted to the application of *Illizarov* fixations (Figures 8 & 9). In January 2007 the X-ray showed the following aspect (Figure 12).

The medical examination revealed a 5 cm shortening of the left limb and a substantial amyotrophy of both the thigh and leg. Furthermore we observed multiple scars in the area corresponding to the fracture, as well as trophic changes and chronic oedema of the leg (Figures 14 – 16). The X-ray showed a fibrosis pseudarthrosis (Figure 13). The victim was assessed with the help of the Table of Evaluation of Permanent Disability in Civil Law [3].

Discussion and conclusions

Closed leg fractures are common injuries that remain challenging to treat because of the wide spectrum of fracture patterns and soft-tissue injuries. Good outcomes depend of a good understanding of indications for surgical and nonsurgical treatment of these fractures. Although cast treatment of stable tibial fractures has traditionally been successful and continues to be widely used, recent clinical studies have shown that intramedullary nails may be more advantageous for fracture healing and function than casting [2, 4]. Regarding our case, the large number of complications and the performance of 10 surgeries demanded a very large incapacity period (2432 days) with the consolidation date being established several years after the traumatic event, in 27-02-2008. Due to the age of the victim we would like to highlight the importance of the expended time, stuck between surgeries and treatments. The impairment parameters were also assigned, with high values for quantum doloris – 7/7, aesthetic damage – 5/7 (due mostly to claudication) and permanent incapacity – 27 points. So, despite having a common occurrence, due to his abnormal evolution, this situation configures a condition of particular seriousness which should not be neglected in cases of forensic examination.

References

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Figure – 1
Day of the accident
X-ray (01/07/2001)



Figure – 2
Cast
immobilization
one month after
the accident



Figure – 3
X-ray showing
intramedullary
nailing of
the tibia
(06/03/2002)



Figure – 4
Intramedullary nailing fracture
(10/01/2003)



Figure – 5
X-ray showing application of plate
and screws (14/02/2003)



Figure – 6
X-ray after the 3rd
intramedullary nailing
(14/08/2003)



Figure – 7
X-ray showing tibial
pseudarthrosis (09/02/2005)

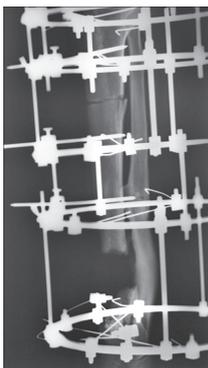
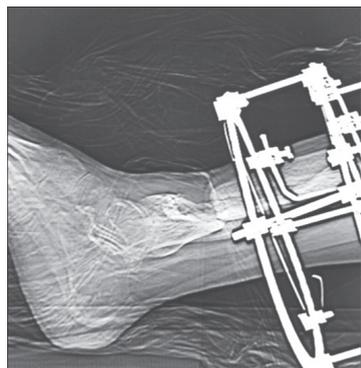


Figure – 8
X-ray after external
fixation (30/03/2005)

Figure – 9
CT Scan after external fixation
(20/12/2005)



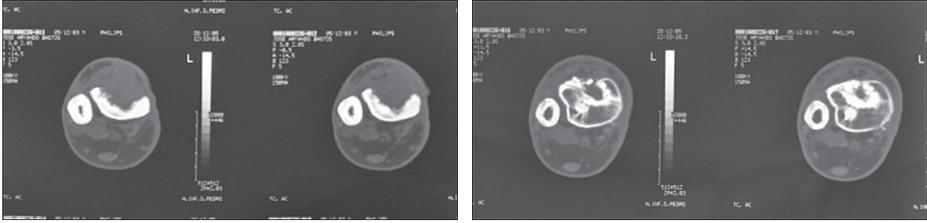


Figure 10 & 11 – CT Scan details



Figure – 12
X-ray after removal of the external
fixation (20/01/2007)



Figure – 13
X-Ray showing the resultant sequelae
(18/07/2008)



Figure – 14
Photo showing
shortening of the left
limb (July 2008)



Figure – 15
Photo showing scars and
oedema of the leg
(July 2008)



Figure – 16
Left leg scar (July 2008)