

Focus on malleolar fractures

D. Heim

Published online: 6 November 2010
© Urban & Vogel 2010

“If you’ve never felt your ankle explode, don’t try it.” Derek Franklin, though, did it at the last fence in the steeplechase at Cheltenham and he broke his ankle! His orthopaedic surgeon (“he was himself a plate-and-screw man by preference”) gave him (at the patient’s wish) the support of a plain crêpe. And it worked, though Franklin complained at times about his ankle—the murderer of his brother was found, and “though I might hurt and I might throb, I didn’t think I had ever been happier” [1].

Ankle fractures are among the most common fractures of the human skeleton [2]—and not only in fiction. Their treatment ranges from internal fixation to simple cast fixation (plain crêpe, though, will probably remain an exception). Many papers and series, many theories and guidelines about their treatment have been published [3]. And still, some questions remain unanswered—one of the most important being the one about the true and unchallenged indication for surgery or the indication for conservative treatment by orthopaedic means [4]. Our socioeconomic environment is subject to many changes, money being or becoming a very unpleasant determinant for the treatment (also) of fractures. In that context, the use of weight-bearing radiographs to assess the stability of ankle fractures might be useful to determine whether conservative or operative treatment is indicated [5].

If surgery is indicated, how to fix these fractures in an optimal way? Many years have gone by since Lambotte’s description (and drawings) of an anatomical reduction and internal fixation of the external malleolus by cerclage wires

[6]. The methods of fixation may have changed in the meantime, cerclage wires being very uncommon nowadays, but simple third tubular plates are also on the verge of oblivion. Simple interfragmentary lag screw fixation with a neutralisation plate [3] is replaced by the more sophisticated mode of fixation by locking screws and locking compression plates. There is no doubt that these modern implants are expensive, far more expensive than the old-fashioned ones, but is their use justified (or just in individual cases)? Sutter and Peltzer point out the principles of internal fixation of ankle fractures today and describe the modern, yet rational, way of internal fixation of malleolar fractures.

And what about the Volkmann triangle? Since 1940, we adhere to Nelson and Jenson’s theory [7] that bigger fragments are to be fixed. But studying their paper, we will discover that their arguments are based on just a limited number of personal observations and that the Volkmann dogma is grounded on very weak and thin ice—a good reason to review critically the role of the Volkmann triangle and formulate some serious doubts and provocative ideas about how to deal with these fractures today. If the recent literature [8] (and our small, personal series) is right, the Volkmann dogma might fall.

But, the results of treatment are not to be judged after some months or 1 year, but after several years, and in this respect, long-term results are rare [9], which leaves us in the awkward position to advise our patient based on (still today) slippery grounds. If the size of the Volkmann triangle is of less importance than anticipated in the past, what, then, is responsible for the development of ankle arthrosis, the cartilage of the joint or some further elements we still hypothesise about [10]? Would perioperative arthroscopy be helpful? Arthroscopy in ankle fractures—a new dogma, one of our generation?

D. Heim (✉)
Spital Frutigen, Adelsbodenstr. 27, Postfach,
3714 Frutigen, Switzerland
e-mail: dominik.heim@spitalfmi.ch

And what if our hero's plain crêpe treatment turns out to be insufficient? What method of correction would his orthopaedic surgeon, that "plate-and-screw man by preference", then provide his jockey patient, whose ambition might be to return to the turfs of Cheltenham? Weber resuméés these options in his paper. And what if the sole treatment of his malunion is to resign to an ankle arthrodesis or an ankle prosthesis (if resignation is the correct word for it)? Espinosa explains the attitudes to choose in such situations in his resumé, also under the aspect that Dick Francis' heroes never give up...

...for, after being beaten up before the police finally came, Derek Franklin comes to terms with his adventure: "He (his brother) has left me his business, his enemies, his horses, and his mistress" His mistress? "She knelt down again and kissed me, but it wasn't passion. More like farewell." Dick Francis' heroes were never James Bond, no sexy one-night stands, just some subtle love stories (if any at all). But—Dick Francis has gone! At the age of 89, one of the world's finest thriller writers, the jockey of the Queen Mother died a few months ago. We will miss you, Dick Francis, we the doctors with "medical minds, that have a macabre sense of humour" [1]. We will miss you and your stories of broken bones, of horse riding and crime and lukewarm English beer! Goodbye.

Conflict of interest None.

References

1. Francis D. Straight. London: Pan Books; 1989.
2. Rüter A, Trentz O, Wagner M. Unfallchirurgie. Germany: Urban & Fischer; 2003.
3. Müller ME, Allgöwer M, Willenegger H. Technik der operativen Frakturenbehandlung. Berlin: Springer; 1963.
4. Böhler L. Die Verrenkungsbrüche im Sprunggelenk. Wien Klin Wochenschr. 1927;40:104.
5. Weber M, Burmeister H, Flueckiger G, Krause FG. The use of weightbearing radiographs to assess the stability of supination-external rotation fractures of the ankle. Arch Orthop Trauma Surg. 2010;130:693–8. doi:10.1007/s00402-010-1051-1.
6. Lambotte A. L'intervention opératoire dans les fractures. Brussels: Lamartin; 1907.
7. Nelson MC, Jenson NK. The treatment of trimalleolar fractures of the ankle. Surg Gynecol Obstet. 1940;71:509–14.
8. van den Bekerom MPJ, Haverkamp D, Kloen P. Biomechanical and clinical evaluation of posterior malleolar fractures. A systematic review of the literature. J Trauma. 2009;66:279–84.
9. Heim UF. Trimalleolar fractures: late results after fixation of the posterior fragment. Orthopedics. 1989;12(8):1053–9.
10. Fitzpatrick DC, Otto JK, McKinley TO, Marsh JL, Brown TD. Kinematic and contact stress analysis of posterior malleolus fractures of the ankle. J Orthop Trauma. 2004;18(5):271–8.