2.13 Penetrating Injuries and IOFBs

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2.13.1 Introduction

Penetrating and IOFB injuries have a lot in common (see Chap. 1.1), but they must be distinguished because of the retained FB’s unique management implications. Even though both of these injury types have better prognosis than ruptures, the treatment can be very challenging and the outcome is ultimately determined by the expertise of the surgeon.

2.13.2 Evaluation

The most important question the evaluation should answer is whether an IOFB is present; every effort should be made to confirm its presence or lack thereof.\(^1\) If history and the test results collide, it is safer to presume that an IOFB is present. (See Chaps. 1.9 and 2.11 for details.)

By far CT is the most reliable method of finding an IOFB. For ferrous IOFBs, X-ray usually suffices, but it still has an up to 31% failure rate in detecting the splinter [4]. For nonmetallic IOFBs, the proportion of false-negative tests is much higher.

It is possible that the agent caused an occult penetrating wound in the sclera (Fig. 2.13.1). The length of the wound is, however, usually much smaller than a rupture’s length.

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1 Failure to do so has severe medical as well as legal consequences.
The implications of an occult scleral penetrating wound are different from those resulting from a rupture. The ECH risk is much smaller if an occult penetrating wound is present, as opposed to the endophthalmitis risk, which is significant. If the retina has also been injured, it is likely to become incarcerated, and the risk of PVR is high; prophylactic chorioretinectomy (see Chap. 2.14) should be considered.

2.13.3 Management

2.13.3.1 Penetrating Injury

The management follows the steps outlined in Table 2.11.2.