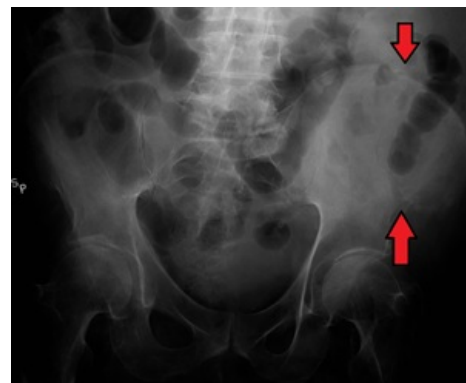


Pelvic fractures

Pelvic fractures account for about 2% of all fractures.^[1] However, in polytrauma, pelvic fractures occur in 20% of cases.^[1] These fractures are usually caused by direct, but more rarely by indirect, **forces of significant energy**. A typical cause is traffic accidents or falls from heights. Since the pelvis closely presses on the organs of the *urogenital* and *gastrointestinal system*, on the *vessels* and *nerves*, injuries to the skeleton are often accompanied by damage to these structures.

AO classification

Type A	stable fractures	the stability of the pelvic ring is not affected
Type B	rotationally unstable fractures	instability in one (horizontal) plane
Type C	rotationally and vertically unstable fractures	instability in multiple planes



Fracture of the iliac crest

Type A fractures

These include **isolated fractures** of individual bones of *os coxae*, **transverse fractures** of the *sacrum* and the *coccyx*. Furthermore, **avulsion fractures** of attachment parts of bones arising from muscle contraction.

Clinical picture and diagnosis

In stable fractures, the patient experiences pain and hematoma at the injury site, the patient cannot walk, and the function of the hip joint is limited. X-ray examination is used for diagnosis, when *front-back*, *east* and *entrance* projection are performed. The diagnosis is then confirmed and refined by CT scan.

Therapy

For most type A fractures, **conservative** treatment is chosen, with the patient lying in bed for several days. After the pain subsides, the patient will start walking on crutches. Dislocated fractures are resolved by *bloody reposition* and osteosynthesis.

Type B and C fractures

Type B fractures result from external or internal **rotation** of the pelvis longitudinally around the axis of the body. Examples are partial injuries to the posterior segment of the pelvic ring or *open book fractures*. In type C fractures, one or both parts of the pelvis detach from the pelvic ring. Death occurs in more than 25% of cases.^[2]

Clinical picture and diagnosis

The patient is usually in **shock** from the **massive bleeding**. If he is conscious, he is troubled by pain in the sacral region and lower abdomen. The goal of the clinical examination is to detect pelvic instability. The diagnosis is confirmed by an *front-back*, *entrance* and *exit image* during X-ray examination and CT examination.



Diastasis symphysis pubis, open book type

Complications

These fractures are often accompanied by complications. There is damage to the urogenital tract. Diagnosis is made by excretory urography or CT with a *contrast substance*. **Operation**, suturing of the bladder, reconstruction of the urethra, drainage of urine with a catheter or diversion of urine by suprapubic puncture is necessary. Injuries to the rectum and small intestine occur less frequently. The patient is most at risk of **blood loss** and **embolism**.

Therapy

Anti-shock treatment is started, bleeding is stopped and **the pelvic ring is stabilized**. It is necessary to reposition and stabilize the pelvis with an external fixator as soon as possible. In type B injuries, the anterior segment of the pelvis is fixed with a plate or external fixator, in type C, a plate or external fixator is used to stabilize the anterior segment, the posterior segment is fixed with screws, a splint or bolts.

Acetabulum fractures

Fractures of the pelvis can also include acetabular fractures, which are a typical example of *intra-articular fractures*.

 For more information see *Acetabulum fractures*.

Links

Related articles

- Pelvis
- Fracture types

References

1. ZEMAN, Miroslav. *Speciální chirurgie*. - edition. Galén, 2014. 511 pp. pp. 396. ISBN 9788074921285.
2. VIŠŇA, Petr – HOCH, Jiří, et al. *Traumatologie dospělých : učebnice pro lékařské fakulty*. 1. edition. Praha : Maxdorf, 2004. 157 pp. pp. 78. ISBN 80-7345-034-8.

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External links

- Krbec: ZLOMENINY PÁNVE A ACETABULA (http://www.med.muni.cz/Traumatologie/Ortopedie_B/Ortopedie_1/Ortopedie_1.htm)