Pelvic Ring Injuries

Treatment

August 2013
Outcome:
How well pelvic bones are treated

NB. POLYTRAUMA patients

Associated injuries
- urological 15%
- neurological
  sacral fracture (20-75%)
- other limb and spine injuries
50 patients

Rx pelvic sling +/- traction

Most did not return to work

Si joint dislocations had worse outcomes.

Better results Sacral fractures Iliac wing fractures

Bony vs ligamentous injuries
Slatis Frame

1972

163 Double vertical fracture

impaired gait 32%
low back pain 17%

Only 18% had hemipelvic displacement

Most were vertically stable

2013: Stable lat compression injuries
Semba, Yasukawa Gustilo 1983

Critical analysis 53 Malgaigne fractures of the pelvis

31% impaired gait
26% backpain

64% symptomatic

Most were stable fractures.

( more than 50% had less than 5mm displacement)
1970s - 1980s

Pelvic Fracture = External fixator

Increasingly complex frames

Slatis. Pittsburgh.

Early application as part of resuscitation

Not adequate for definitive treatment for unstable patterns

Risk of potentiating problems in lat compression injuries
Musculo-Skeletal Outcome:

Bony or ligamentous

Ring Stability partially stable, unstable.

Displacement of fracture

Union of fracture
McCowan S, Kellam J, Tile M: COA 1986

Unstable Pelvic ring Disruptions:

Results of open reduction and internal fixation.

25% complication rate
Tornetta Matta 1996

77 pts type 3 44mths

30% acetabular fractures
38% neurological injuries

Outcome

67% return to previous work
50% no pain
13% pain only with very strenuous activities
Pohlemann et al. 1996

Type B  80% good/excellent
Type C  27% good/excellent

Tournetta

Type 2  96% good/excellent
        83% RTW in less than year

Browner

Type 3
      50% not working at one year
GOALS:

Anatomical reduction:

Equal leg lengths
No sitting imbalance
Heal better
Decrease pelvic pain
Less obstetric complications

Functional:

Ability to return to work
Return to recreational activities
Controversy:

Indications for surgery.
Techniques.
Determining stability of a pelvic ring injury.

X-ray:

Predict those who will displace with non operative Rx.
Helps
Define rotational vs vertical instability
Define indications for surgery.
Classification: Young and Burgess

Implications:

Blood loss requirements
Injury patterns

Mechanistic
Treatment decisions
Lateral compression force

Also:
- Pelvic organ laceration
- Chest injury
- Head injury
External rotation force – (Open book)

Associated with
Vessel injury
Nerve avulsions
Abdominal organ injury
Vertical shear
External fixator:

Rarely used now for definitive fixation

Still a place for anterior stabilisation after posterior fixation
if anterior soft tissues compromised.

Anterior internal fixator.

Emergent treatment:

In O.R at time of laparotomy

Bleeding, packing.
Rupture viscus

Temporary stabilisation prior to ORIF.

Transfer to level 1
Pain
Nursing cares