Introduction

In the Galeazzi fracture-dislocation there is a fracture of the distal third of the shaft of the radius in association with a subluxation or dislocation of the distal radio-ulna joint.

It is more common than the Monteggia type fracture-dislocation.

Galeazzi fracture-dislocations can be difficult to recognize and are often not initially appreciated.

If there is an isolated radius fracture, the distal radio-ulnar joint should always be examined carefully for the presence of an associated subluxation or dislocation.

History

This injury was first described by Galeazzi in 1934.

Epidemiology

These fractures are uncommon.

They are seen more commonly in adults, and are rare in children.

The Galeazzi Equivalent fracture is seen somewhat more commonly in children.

Mechanism

Fall on the outstretched hand in association with hyper-pronation of the forearm.

Severe angulation of a forearm bone is normally accompanied by a fracture or dislocation of the other.

Classification

Galeazzi fractures can be classified by the direction of the ulna displacement, hence:

- Volar Galeazzi
- Dorsal Galeazzi
The Galeazzi Equivalent:

This is similar to a true Galeazzi with distal third radial fracture accompanied by a distal ulnar physeal fracture, instead of a radio ulnar subluxation or dislocation.

The distal radio-ulnar joint remains intact.

Complications

1. Neurovascular compromise:
   - The ulna nerve may be damaged, however this is uncommon.

2. Compartment syndrome.

3. Chronic disability:
• Non-union, deformity and secondary degenerative changes will result if the distal radio-ulnar dislocation is missed.

4. Physeal Injury:

• There is a high risk (up to 50%) of ulnar physeal disturbances with Galeazzi equivalent injuries.

• This can lead to ulna shortening and chronic distal radioulnar joint problems depending on the amount of growth remaining in the radius.

5. Malunion of the radius:

• Malunion of the radius can lead to chronic subluxation of the distal radio-ulnar joint, leading to chronic pain and impaired movement.

Clinical features

• Swelling and deformity are usually obvious

• Check the distal neurovascular status

• Rule out compound injury.

Investigations

Plain radiography:

This will make the diagnosis in most cases.

Views:

• A-P:

  ♥ Widening of the distal radio-ulnar joint may be seen.

  ♥ An associated fracture of the ulnar styloid may be seen, (Galeazzi Equivalent)

• Lateral:

  ♥ The ulna does not overlie the radius, (volar or dorsal displacement is seen).

  ♥ The ulnar styloid is not aligned with the dorsal triquetrum

The views should include the entire radius and ulnar as well as the elbow joint.
If there is an isolated radius fracture, the distal radio-ulnar joint should always be examined carefully for the presence of an associated subluxation or dislocation.

**CT scan**

This will not usually be required unless the injury is more complex, or the diagnosis is unclear on plain radiography.

**Management**

1. Splint/ elevate
2. Analgesia as required.
3. Reduction:
   - In children closed reduction is preferred and most cases can be managed in this way.
     Fluoroscopy should be used to assess stability of the distal radio-ulnar joint after reduction.
   - Adolescents and adults will generally be treated with ORIF, in order to stabilize the distal radio-ulnar joint after reduction.
4. Ulnar nerve neuropraxia usually resolves spontaneously.

**Disposition:**

All Galeazzi fractures should be referred to the Orthopaedic Unit.

Following reduction check radiographs should be taken at 1 and 6 weeks.

Fractures with ulnar physeal injury need long-term follow-up review at 6-9 months to assess for any growth arrest and subsequent management of this.
Left: Galeazzi fracture showing typical radio-ulnar dislocation (volar type) on the lateral view and displaced fracture of the distal third of the radius on the A-P view.

Left: Galeazzi Fracture, (arrow shows widening of the radio-ulnar joint on the A-P view) and radio-ulnar dislocation (dorsal type) on the lateral view.
References


3. Pitfalls in Orthopedic Radiography Interpretation. Michelle Lin, MD FAAEM Assistant Clinical Professor of Medicine, UC San Francisco San Francisco General Hospital Emergency Services 2008.

4. RCH Paediatric Fracture Guidelines.

Dr J. Hayes
Dr Peter Papadopoulos.
Reviewed February 2013