Perthes' Disease

INTRODUCTION

- Perthes' disease is a disorder of childhood characterized by necrosis of the femoral head.
- Although the incidence is only 1 in 10,000, it should always be considered in the differential diagnosis of hip pain in young children.
- Patients are usually 4–10 years old and often show delayed skeletal maturity; boys are affected four times as often as girls.

EPIDEMIOLOGY

Rare disease

Male : Female = 4:1

Age 4-8 years

AETIOLOGY

- Unknown
- May be associated with;

Low birth weight

High birth order

Trauma

Delayed bone age

Low socioeconomic status

Abnormalities in anthropometric Measurement

Thrombophilia secondary to protein deficiency

Non specific synovitis

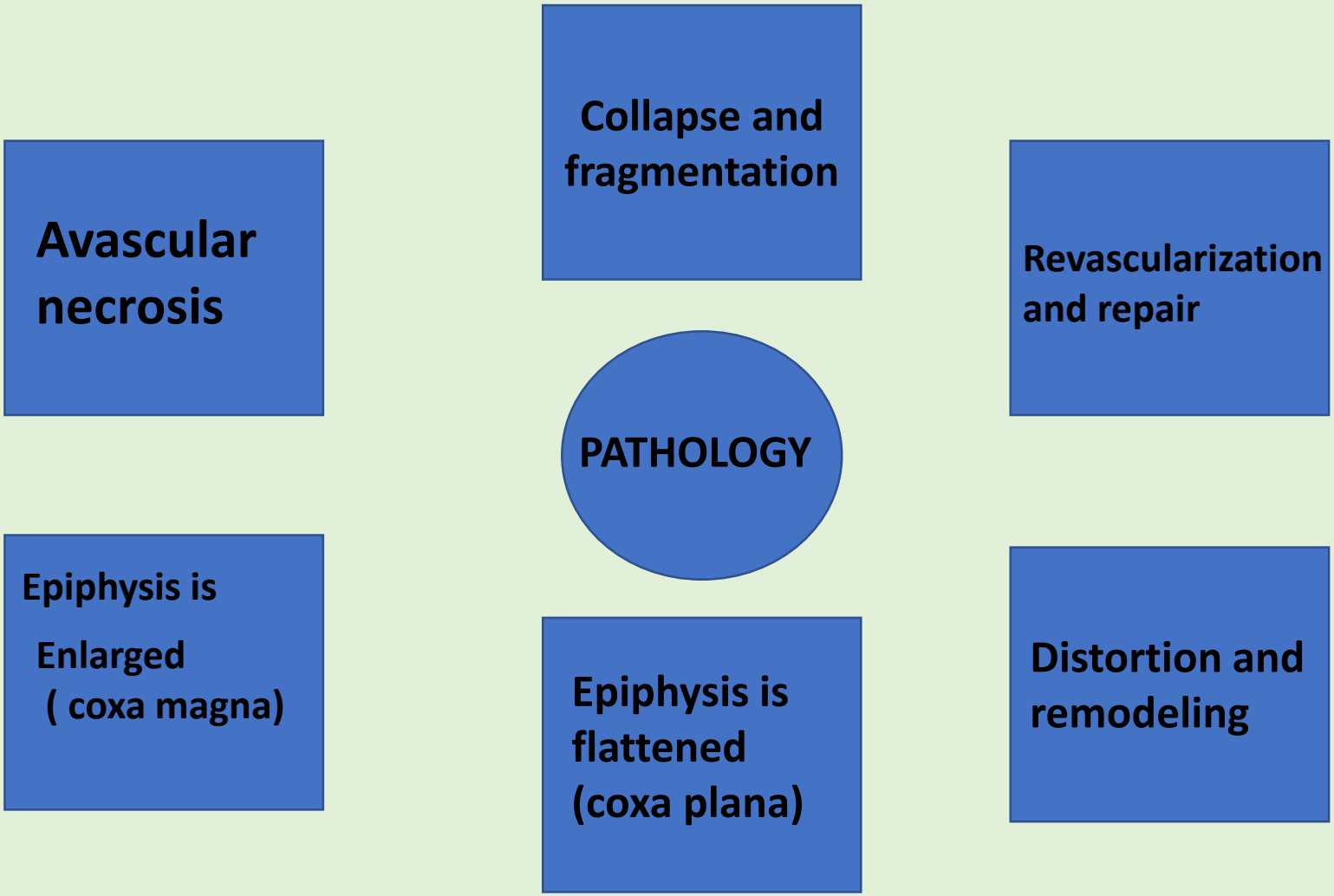
PATHOGENESIS

- Up to the age of 4 months, the femoral head is supplied by: (1) metaphyseal vessels which penetrate the growth disc; (2) lateral epiphyseal vessels running in the retinacula; and (3) scanty vessels in the ligamentum teres.
- The metaphyseal supply gradually declines until, by the age of 4 years, it has virtually disappeared; by the age of 7, however, the vessels in the ligamentum teres have developed.

PATHOGENESIS

- Between 4 and 7 years of age the femoral head may depend for its blood supply almost entirely on the lateral epiphyseal vessels whose situation in the retinacula makes them susceptible to stretching and to pressure from an effusion.
- The precipitating cause is probably an effusion into the hip joint following either trauma, of which there is a history in over one-half of the cases, or a non-specific synovitis.

PATHOLOGY


Avascular necrosis
Collapse and fragmentation
Revascularization and repair
PATHOLOGY
Epiphysis is Enlarged (coxa magna)
Epiphysis is flattened (coxa plana)
Distortion and remodeling

CLINICAL FEATURES

Intermittent painful hip or knee

Limp

Restriction of hip movements

Mainly abduction and internal rotation

INVESTIGATIONS

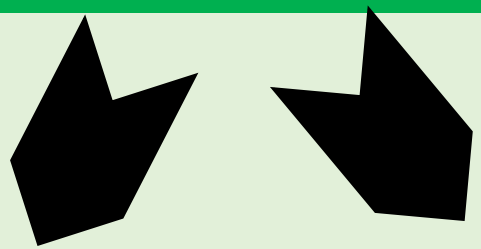
1. X-Ray

1. AP & frog lateral
2. Late features are flattening and enlargement of head

2. Radio-isotope scan

3. USS

TREATMENT



Non operative

- Bed rest
- Skin traction to affected log for 3 weeks
- Regular analgesics
- Physiotherapy
- Early mobilization

Surgery

- Containment- in early stage
- Femoral osteotomy (subtrochanteric)
- Innominate osteotomy
- Acetabuloplasty