Radiology Quiz

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CASE -1

Presentation
6 years old girl presented with delayed growth, weakness, pain in the spine, pelvis, legs and difficulty in walking.

X-Ray

Questions
A) What are the features seen in the X-ray of the hand and knee joint?
B) What is the most probable diagnosis and why?
C) What are the differential diagnosis for widening of the growth plate?

Case discussion
A) X-ray of Right wrist joint AP, Lateral view and both knee joint AP view show the following features:
1. Widening of growth plate is the earliest specific radiological change.
2. Irregular metaphysial margins. (Fraying)
3. Widening of metaphysis. (Splaying)
4. Concavity of metaphysis. (Cupping)
5. Irregular and indistinct epiphyseal margin.
6. Delayed appearance of ossification centre.
7. Osteopenia of visualised portions of bones.

B) Rickets
From the aforesaid radiological features in this paediatric age group after correlating with clinical features the most probable diagnosis which comes first is Rickets.

C) Differential diagnosis: 1
The differential diagnosis for widening of the growth plate include:
1. Schmid-type metaphyseal chondrodysplasia
2. Hypovitaminosis C (scurvy)
3. Delayed maturation due to illness
4. Endocrine disturbances
   i. Growth hormone excess
   ii. Hyperparathyroidism
   iii. Hypothyroidism

Reference

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CASE - 2

Presentation
A five year old male child presented with bluish discolouration of lips since 1 month of age, breathlessness on exertion since 6 months of age and central cyanosis.

![Chest X-ray](image)

X-Ray
Questions:
A) What are the features seen on this Chest X ray (PA)?
B) What is the most probable diagnosis? What are the major cardiac defects in this disease?
C) What are the common complications in this cyanotic heart disease?

Case discussion
A) Chest x-ray PA view shows the following features-
   1. Decreased pulmonary vascularity. (Pulmonary Oligaemia)
   2. Uplifted cardiac apex (Boot shaped heart) due to right ventricular enlargement.
   3. Concave main pulmonary arterial segment.
   4. Small hilar pulmonary arteries.
   5. Right sided aortic arch
B) TOF with right sided aortic arch.
The major cardiac defects seen in this condition are
   1. Ventricular septal defect
   2. Pulmonary stenosis
   3. Overriding of aorta
   4. Right ventricular hypertrophy
C) The most common complication are
   1. Cerebral thrombosis
   2. Brain abscess
   3. Infective endocarditis