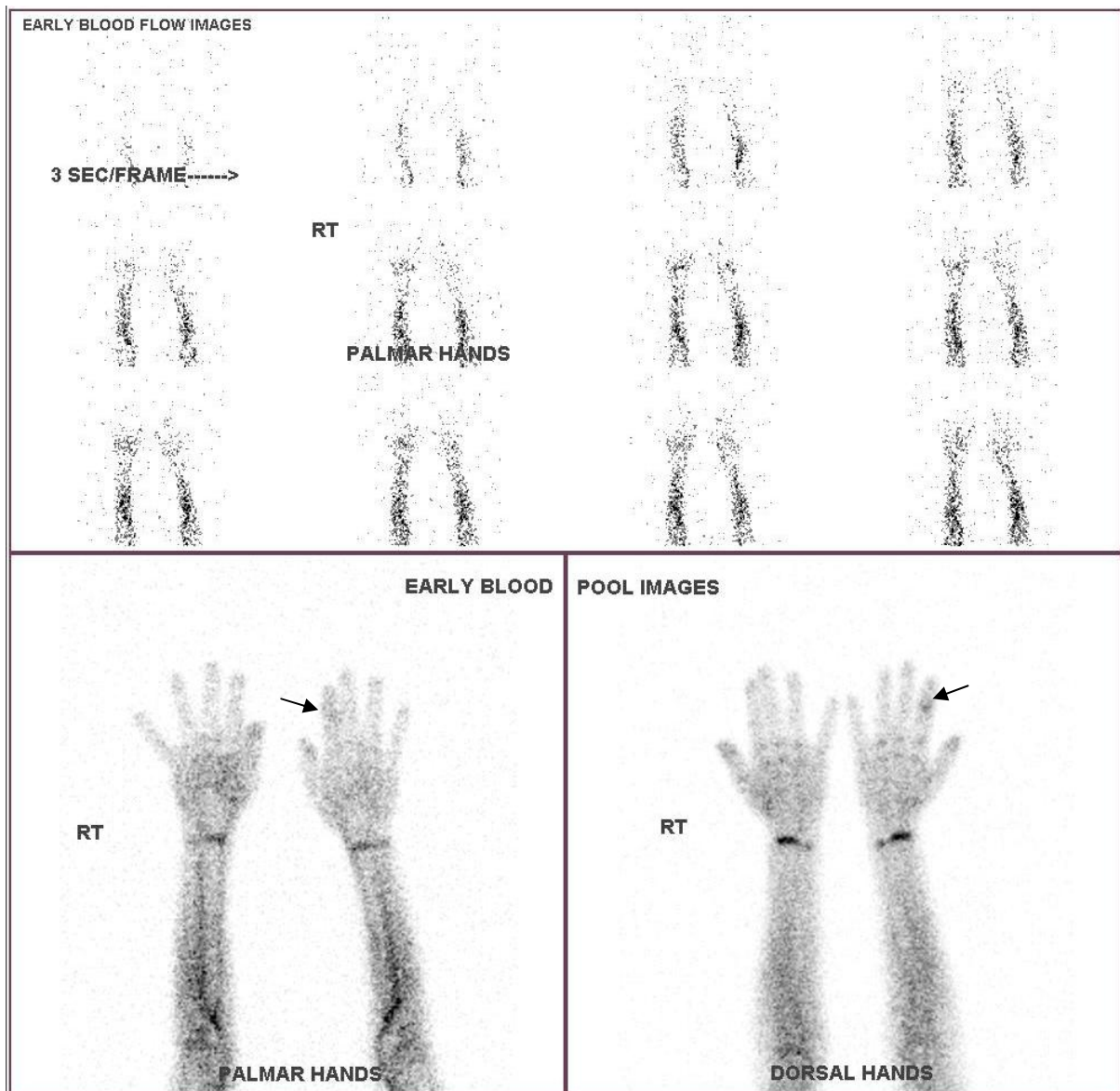


## PHALANGEAL MICROGEODIC SYNDROME



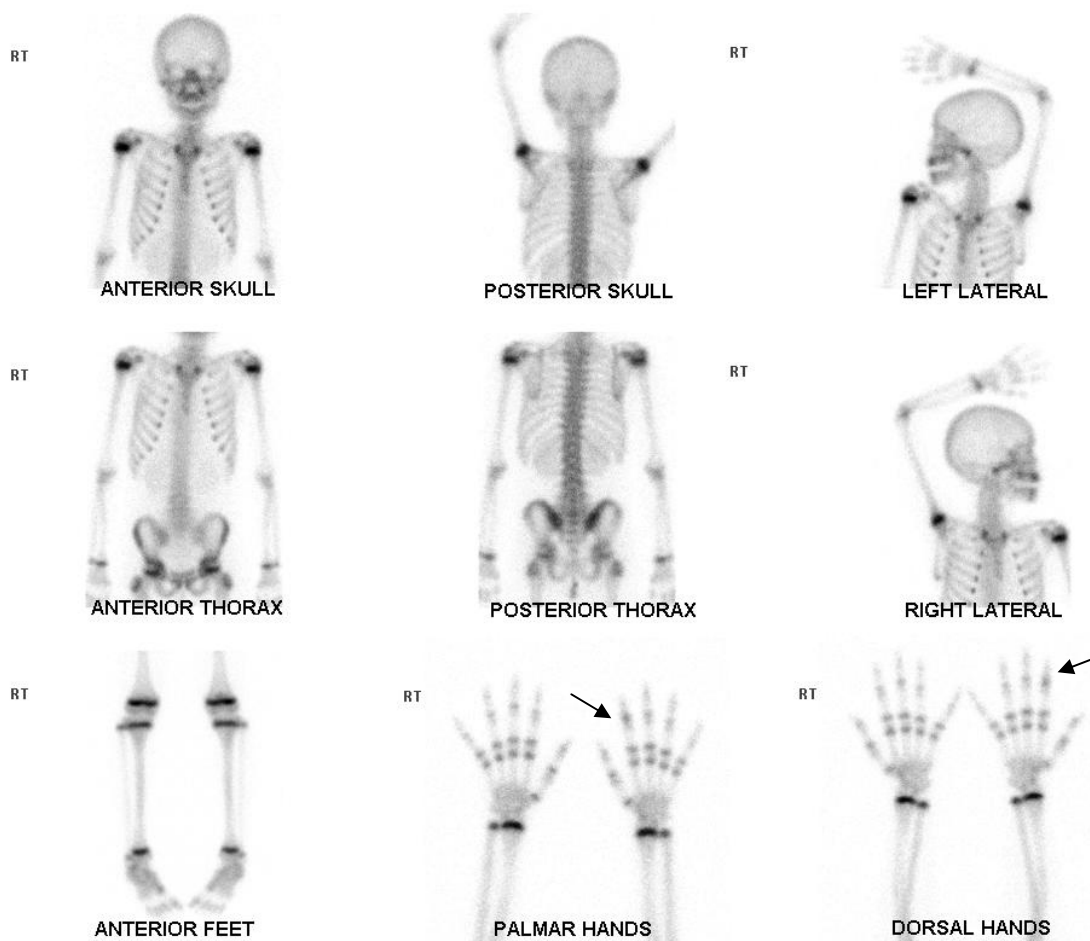
9 yr old female presented with a swollen and discoloured left index finger without knowledge of definite injury in July, a possible football injury to the finger was inconclusive.

A recent X-ray reported a sclerotic reaction involving the distal  $\frac{3}{4}$  of the middle phalanx of the left index finger with an area of radiolucency involving the metaphyseal region of the bone.

Follow up X-ray was strongly suspicious of underlying osteitis.

The early blood pool images show mild hyperaemia of the proximal middle phalanx of the 2<sup>nd</sup> index finger (arrows above).

## DELAYED BONE SCAN IMAGES

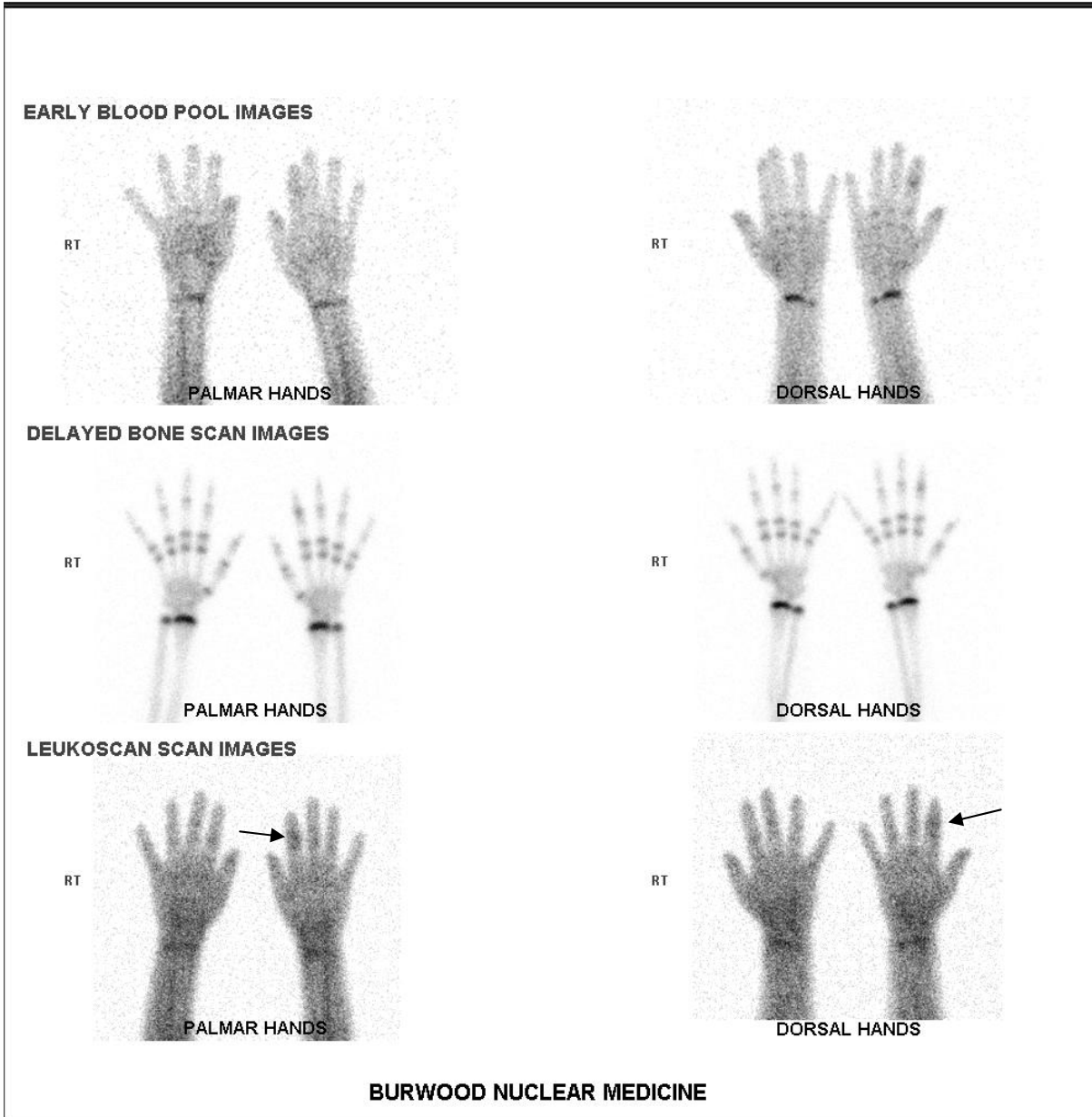


**BURWOOD NUCLEAR MEDICINE**

The delayed images show mild abnormal uptake by the proximal metaphysis of the middle phalanx of the left index finger corresponding with the lucency seen on the x-ray, with minimal increased uptake by the distal  $\frac{3}{4}$  of the middle phalanx. The skeleton elsewhere was normal.

There was evidence of soft tissue inflammation of the left 2<sup>nd</sup> index finger (arrows above), which could be due to a low grade infection.

Further investigation with a Leukoscan (white blood cell scan) was performed to rule out osteomyelitis (see below).



The labelled white cell scan showed mild inflammatory arthritis (rather than septic) of the left 2<sup>nd</sup> proximal IP joint (arrows above). This could possibly be secondary to a low grade infection; however with further follow up x-rays, a negative Mantoux test and paediatric rheumatology consults it was concluded to be Phalangeal Microgeodic Syndrome (PMS).

PMS is a curious idiopathic and self resolving condition. It involves the middle phalanx of either index and /or middle fingers for some reason and usually occurs in colder months.

PMS signs include sub-acute swelling and redness of fingers associated with microgeodic osteolytic lesions of the phalanges. Sickle cell anaemia, syphilis, tuberculosis and sarcoidosis are the main differential diagnosis to be excluded.

The aetiology is unknown; however circulatory disturbances in the phalanges exposed to low temperatures have been mentioned by several authors, suggesting a cold injury. Direct exposure to processionary caterpillars is also mentioned in a few cases.