Calcination preferentially affects the thumb compared to other fingers in patients with systemic sclerosis

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Background

- Systemic sclerosis (SSc)-related calcinosis (which is well demonstrated on plain X-rays), frequently affects the fingers, and can be a major source of pain and disability.
- Although Raynaud’s phenomenon often spares the thumb, clinical experience suggests that conversely the thumb is frequently affected by calcinosis. (Figure 1)

Aims

- To investigate the hypothesis that in patients with SSc, thumbs are more commonly affected than other digits by calcinosis.
- Specific objectives were to:
  - Review the radiographs of patients with SSc and calcinosis and give each finger a score according to the severity of calcinosis.
  - Describe any significant differences in the scores between the thumbs and other fingers.

Patients and Methods

- Hand radiographs from patients with SSc from a single tertiary referral centre were selected for analysis on the basis that at least one area of calcinosis was identified. (Figure 2)

Results

- X-rays of 68 patients with SSc showed calcinosis
  - 90% female,
  - median age 62 years [range 55-88],
  - 81% limited cutaneous and 19% diffuse cutaneous
- Results are shown in Figures 5-8.
- When metacarpals were excluded, the overall trend in scores across digits for both hands suggested that there was decreasing severity from the thumb to the little finger.
- There were a particularly large number of 3 scores for thumbs on right hands (15%) compared to left hands (4%).
- A Friedman test of difference in median scores across fingers (testing for an overall difference between fingers) was statistically significant for both left hands and right hands (both p < 0.0001).

Conclusion

- The thumb is affected by calcinosis more than other digits, followed by the index finger.
- This observation provides insight into the pathogenesis of SSc-related calcinosis, which may relate more to repetitive trauma than to ischaemia.