

# Observations On The Potential Protective Effects Of Gold Rings In The Rheumatoid Hand

D Power, M Martin, R Dias, S Deshmukh

## Citation

D Power, M Martin, R Dias, S Deshmukh. *Observations On The Potential Protective Effects Of Gold Rings In The Rheumatoid Hand*. The Internet Journal of Orthopedic Surgery. 2004 Volume 2 Number 2.

## Abstract

The authors have observed that there appears to be a reduced severity of destructive small joint arthritis in the digits of habitual gold ring wearers compared to the other small joints in the same hand. Possible mechanisms are discussed.

## CASE REPORT

A 66 year-old right hand dominant woman presented to the regional hand unit with symptoms suggestive of carpal tunnel syndrome. She reported a 30 year history of rheumatoid arthritis involving her hands and wrists. She had undergone multiple surgeries to her hands over the preceding 10 years. The right hand surgery included silastic interposition arthroplasties to 2<sup>nd</sup> through 5<sup>th</sup> MCPJs, correction of Swan-neck deformity to the ring finger and PIPJ fusion to the middle finger for Boutonniere deformity. The left wrist and index finger PIPJ had been fused. There was mild ulnar deviation at the left 2<sup>nd</sup>, 3<sup>rd</sup> and 5<sup>th</sup> MCPJ level. The left middle finger revealed Nalebuff grade IV Boutonniere deformity and the small finger Nalebuff grade III Swan-neck deformity. The left ring finger did not show any evidence of rheumatoid disease at MCPJ, PIPJ or DIPJ level. Radiographs confirmed that all joints in the left ring finger were normal. All the remaining small joints showed extensive degenerative changes in both hands. She had worn 24 carat gold engagement ring and wedding band continuously for 40 years on the left ring finger. She had never worn rings on her other fingers. Clinical photographs are shown in Figures 1 and 2.

## Figure 1

Figure 1



**Figure 2**

Figure 2



## DISCUSSION

When simple initial treatments of rheumatoid arthritis have failed to arrest the destructive synovitis disease modifying agents may be introduced. Gold injections are one such option although the mechanism by which they act is not fully understood. Previous researchers have suggested that

gold ring wearers may benefit from a local transdermal absorption and that local lymphatic spread may result in high levels of gold in periarticular tissues where it may arrest the destructive inflammatory arthritic process.<sup>1</sup> There may be a local mechanical advantage in ring wearers, although our observations have only identified this phenomenon in subjects who have habitually worn gold rings with a high carat content.

Further work is needed if the mechanism of this unusual observation is to be elucidated.

The authors continue to explore this area with gold assays of synovial and capsular tissues at the time of future surgical interventions.

## CORRESPONDENCE TO

Dominic Power Department of Hand Surgery Royal  
Orthopaedic Hospital Bristol Road Northfield Birmingham  
UK dominic.power@roh.nhs.uk

## References

1. Mulherin DM, Struthers GR, Situnayake RD. Do gold rings protect against articular erosion in rheumatoid arthritis? *Ann Rheum Dis* 1998, 57:323

**Author Information**

**D.M. Power**

Department of Hand Surgery, The Royal Orthopaedic Hospital

**M.G. Martin**

Department of Hand Surgery, The Royal Orthopaedic Hospital

**R. Dias**

Department of Hand Surgery, The Royal Orthopaedic Hospital

**S. Deshmukh**

Department of Hand Surgery, The Royal Orthopaedic Hospital