

**Alphabet Soup:
ALVAL, ALTR, OMG!**

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Royalties received (DePuy & Stryker)

“Metallosis”

- Historical *Metallosis* - gross tissue staining with metal
- Current use – “issues” associated with CoCr alloys
- ALVAL – Aseptic Lymphocytic Vasculitis-Associated Lesions; histological findings
- ALTR – adverse local tissue reaction; generic term

High wear,
metallosis;
no
pseudotumor

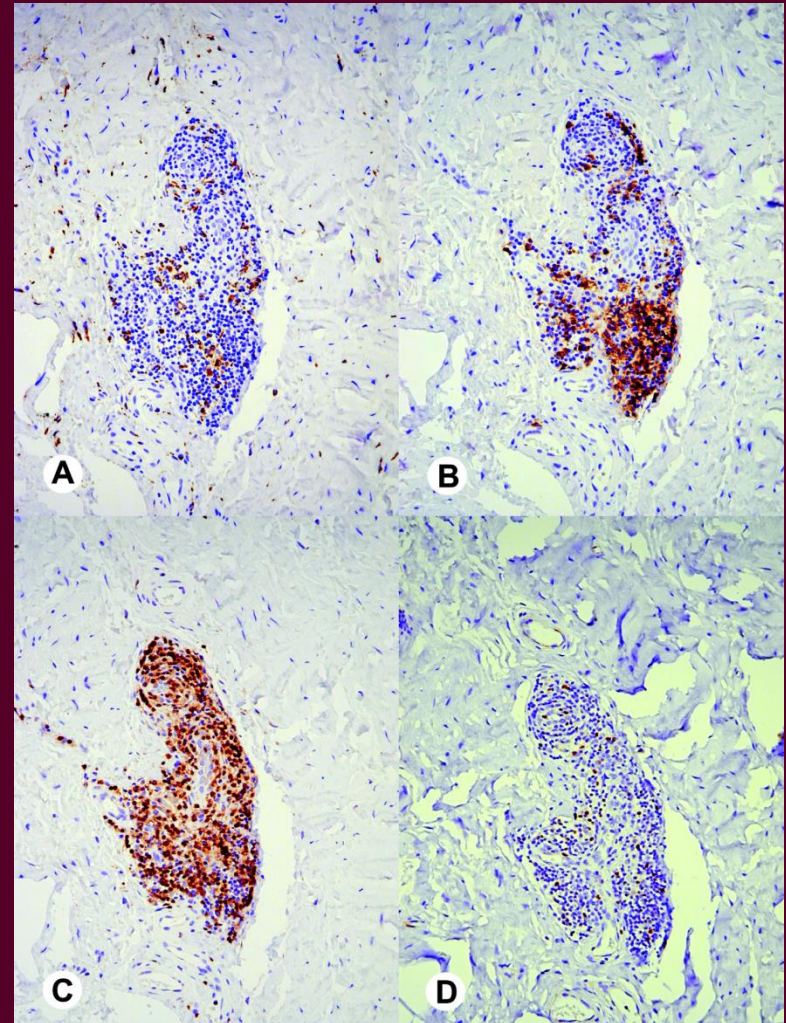


Alphabet Soup

ALVAL

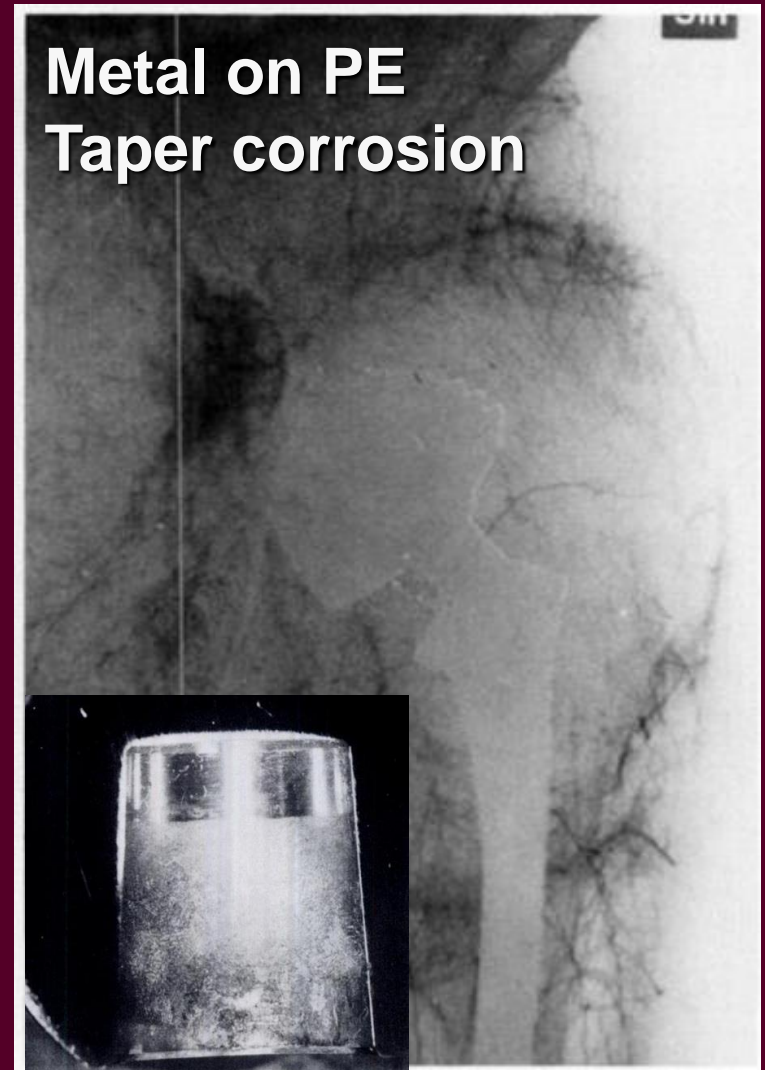
- **Aseptic Lymphocyte-dominated Vasculitis-Associated Lesion**
- **Diffuse and perivascular infiltrates of T and B lymphocytes and plasma cells, high endothelial venules, massive fibrin exudation, accumulation of macrophages with droplike inclusions, and infiltrates of eosinophilic granulocytes and necrosis**
- **Few metal particles**
- **Associated with CoCr**

Willert et al. 2001, 2005



“Pseudotumor”

- Svensson et al.
JBJS A 1988
- “Formation of a fulminant soft-tissue pseudotumor”
- **Metal-PE bearing**
- **Extensive necrosis**
- **Neuropathy**
- **Histology c/w ALVAL
(Willert 2005)**
- **CoCr-CoCr taper
corrosion**

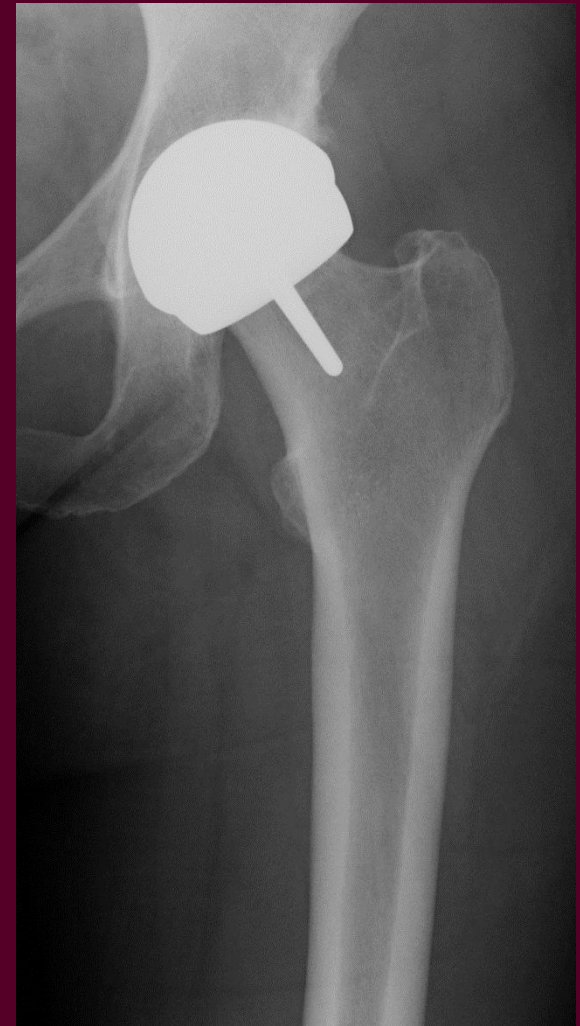
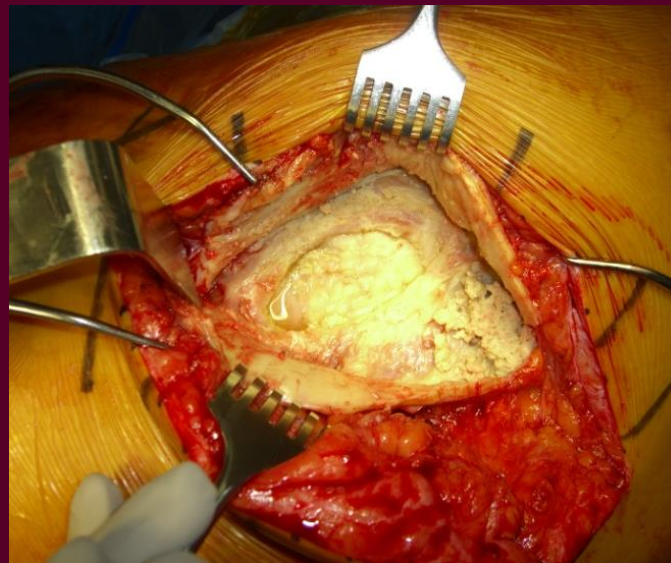


ALTR = Adverse Local Tissue Reaction

Generic Term

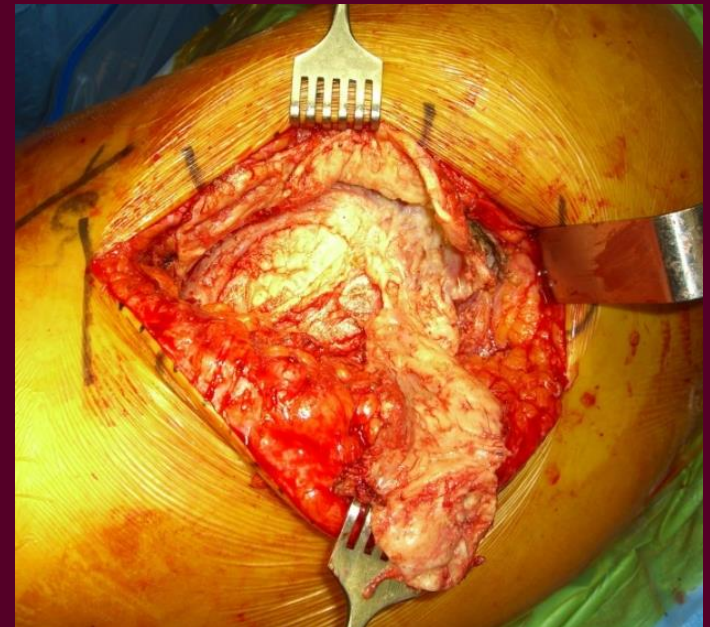
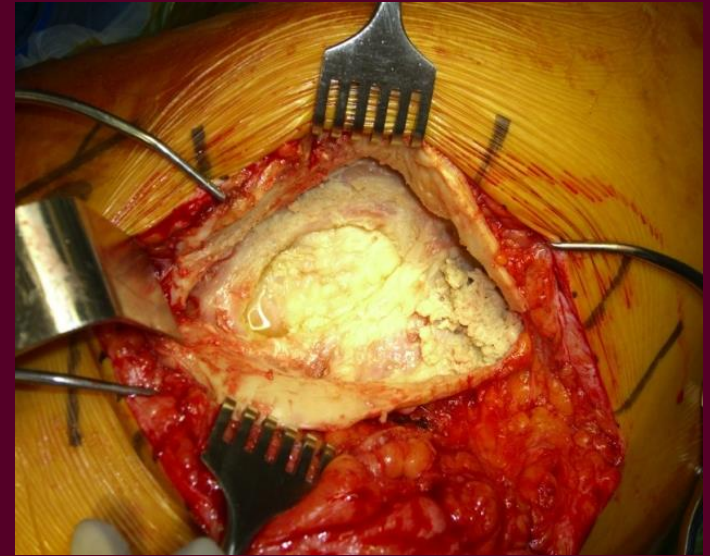
- **CoCr alloys**
- **Understanding in evolution**
- **Various stimuli**
- **Variable concentrations**
- **Variable tissue reactions**

Low wear;
pseudotumor
(pseudocyst)



ALTR = Adverse Local Tissue Reactions

- **Two distinct pathologies**
 1. High wear and ions; foreign body response *but no pseudotumor*
 2. Lower wear *with pseudotumor*
- **Potential stimuli**
 - Wear particles
 - Metal ions (haptens)
 - Corrosion products
- Tissue reaction dependent on concentration of various stimuli
- **Pseudotumor not simply wear**
 - Svensson et al. pseudotumor; corrosion > wear
- Pseudocyst more accurate term for most cases



ALVAL et al.

- **Metallosis**
 - Gross tissue staining from metal wear
- **Pseudotumor**
 - Cystic, solid, or mixed reactive tissue associated with CoCr
 - Pseudocyst most common
- **ALVAL**
 - Histological diagnosis
 - More than lymphocytes
- **ALTR**
 - Generic term for CoCr related pathologies
- **ARMD (Langton)**
- **MRP (AOA NJR)**

