

NICKEL AND DIME OF SKIN PLAQUES POST TOTAL KNEE REPLACEMENT

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Introduction

- Close to a million knee replacement surgeries are performed in the United States each year. The heavy metals nickel, cobalt, and chromium are commonly added to the prosthesis alloy to provide strength.
- The incidence of hypersensitivity to metals is 15% in the general population.

Case Report

- 76-year-old female presented with persistent knee and thigh pain and a new skin rash (plaques) over the anterior aspect of her right knee and skin nodules of the right leg for two months following total knee arthroplasty (TKA) of the same knee.
- Examination showed a large, thickened, and tender plaque spreading from the well-healed incision with smaller satellite lesions. There was no discharge or signs of infection.
- Due to the lack of specificity of serologic and skin allergy testing, we proceeded with skin biopsy which was indicative of allergic contact dermatitis likely due to nickel.
- The orthopedic surgeon decided to revise the TKA and replace the femur component with a nickel-free prosthesis.



Image 1: Erythematous, Itchy plaques with distal indurated lesion



Image 2: Post revision and removal of the nickel prosthesis

Discussion

- The case highlights the role of the internist in the diagnosis and management of nickel allergy following joint arthroplasty.
- There is no standard testing for metal allergy before surgery. Skin and serological testing lack specificity and diagnostic accuracy
- Preoperative screening for metal allergy may prevent such devastating complications. .
- Lymphocyte transformation testing has higher sensitivity than patch testing and could be explored further as an option for diagnosis and screening.

References

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