Idiopathic Granulomatous Mastitis and other conditions of the breast

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DISCLOSURE OF RELATIONSHIPS WITH INDUSTRY

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DISCLOSURES
Proctor and Gamble: member of Scientific Advisory Board
UpToDate: Royalties
Idiopathic Granulomatous Mastitis: Clinical

- Breast nodule – unilateral; 1-4 lesions; painful (85%); Pandey et al 2% bilateral
- Overlying skin – erythematous (50%); discharge (33%); ulcers/sinus tracts
- Axillary lymphadenopathy – 13%
- Chronic / Relapsing – Joseph et al 47% relapse

Idiopathic Granulomatous Mastitis: Epidemiology

- Most papers call “rare” – but increasing numbers of publications recently (first described 1972)
- Women ages 20 -50
- Within 6 years of pregnancy/ lactation
- Bellevue paper – 85% Hispanic; 85% immigrants

Idiopathic Granulomatous Mastitis: Etiology Unknown

- Infectious - Associated with Corynebacterium
- Hormonal - Associated with elevated prolactin levels
- Auto-immune – problem with adaptive immunity; can be associated with arthritis, EN, etc
- Auto-inflammatotary – problem with innate immunity
- Possible both genetic and environmental triggers

Idiopathic Granulomatous Mastitis: Work Up

• Ultrasound +/- other imaging (mammogram, MRI)
• Core needle biopsies (better than fine needle aspiration)
  - we suggest samples for culture and for histology
• Labwork: CBC, CMP, CRP, ESR, ANA, RF, ANCA, ACE, Quantiferon Gold, prolactin level (Bouton et al 11% with prolactinoma), HIV
• Chest x-ray

Idiopathic Granulomatous Mastitis: Pathology

• Joseph et al: 80% granulomatous (necrotizing in 60%) 20% “immature granulomatous formation”

• Troxell et al: 19/35 cases with cystic neutrophilic granulomatous mastitis: cystic space, rim of neuts, rim of granulomatous inflammation 16/19 with gram positive rods in cystic spaces few culture corynebacterium

Idiopathic Granulomatous Mastitis: DDX

- Inflammatory: sarcoid; Wegener’s granulomatosis; Giant cell arteritis; Polyarteritis nodosum;
- Infectious: parasitic infection; fungal infection; mycobacterium infection
- Neoplastic: breast cancer ruled out with biopsy
- Other: foreign body reaction

Idiopathic Granulomatous Mastitis: Treatment

- surgery: wide excision advocated by Yabanoglu et al – had no recurrences; other literature 8-50% recurrence;
- surgery: mastectomy
- aspiration of lesions

Idiopathic Granulomatous Mastitis: Treatment

• Medical management
  • antibiotics out of favor (we try doxycycline as anti-inflammatory drug)
  • NSAIDs to help control pain
  • Steroids
  • Methotrexate
  • others: hydroxychloroquine, colchicine, adalimumab, anti-Tb meds (IRPE)

Idiopathic Granulomatous Mastitis: Treatment

• Medical management
  • Steroids – Pandey et al started at 40mg/day and tapered every 2-4 weeks by 5-10mg
  44/44 patients symptom relief at 2 weeks
  35/44 resolved
  median time to resolve 5.3 months
  range 3-18 months

Idiopathic Granulomatous Mastitis: Treatment

• No treatment advocated by Bouton et al
  • 27 patients resolved 6-10 months
  • advocate patience and education
  • intermittent “procedures” (drainage)

Sarcoidosis and the Breast

• breast involvement rare in sarcoid < 1%
• most cases have lung involvement (90%)
• ACE level elevated

Tuberculosis of the Breast

- Breast tuberculosis very rare - <0.1% of all breast histology
- Clinically can be identical to IGM: unilateral nodule; may have axillary lymphadenopathy; may have sinus tracts/nipple retraction
- Paucibacillary so stains and even cultures often negative; can try PCR on fresh tissue
- PPD/ quantiferon gold frequently positive in patients from endemic areas – does not mean has Tb mastitis; however, I think negative test useful
- Chest Xray may show signs of old Tb in lungs or calcifications in axilla
- Treatment: start with isoniazid, rifampicin, pyrizinamide, ethambutol for 2 months; cont INH and Rifampicin for 4-7 months more

Thimmappa D, Mallikarjuna MN, Vijayakuma A. Breast Tuberculosis. Indian J Surg 2015; 77(suppl 3) s1378-s1384.
Pyoderma gangrenosum of the breast

• Seen post-op – confused with infection or ischemia; can have leukocytosis and fever
• Occurs avg 6 days post-op
• Only 27% with associated auto-immune dz
• 85% involve multiple surgical sites (bilateral breasts; abdominal donor site)
• If nipple present, not involved with PG though border may be
• Needs medical (steroids; cyclosporin) not surgical management

Pyoderma gangrenosum: Treatments

- **Topical**
  - Corticosteroids
  - Calcineurin inhibitors
  - Timolol (case report)

- **Systemic**
  - Corticosteroids
  - Cyclosporin
  - “steroid sparing” rx: azathioprine; MMF
  - TNF blockers: infliximab; adalimumab
  - IVIg
  - Ustekinumab
  - Canakinumab (IL1β blocker)

Hidradenitis Suppurativa

- abscesses, sinus tracts
- scarring, fibrosis
Medical Treatment of HS: antibiotics

- topical clindamycin
- doxycycline
- clindamycin/rifampin
- rifampin/metronidazole/ moxifloxacin
- dapsone

Medical Treatment of HS

• zinc gluconate
• metformin
• glucocorticoids
• other immunosuppressants: cyclosporin, MTX
• retinoids

Medical Treatment of HS: biologics

- infliximab - 5mg/kg vs higher
- adalimumab – FDA approve at 160mg day 0, 80mg day 15, 40 mg day 29 and q wk after
- anakinra – study 100mg/day; ?200mg q day
- ustekinumab – 45 vs 90 mg dose; may need q 8 weeks

Summary

• IGM – not as rare as once thought; share with breast surgeon
• Tb and Sarcoid limited to breast – is rare
• Pyoderma Gangrenosum – think of it in post op consult
• Hidradenitis Suppurativa – can affect breast tissue; are we getting closer to good treatment?