Role of Synovial Macrophages in Knee Osteoarthritis

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Introduction

- 20% of Canadians are living with arthritis; the most common form is Osteoarthritis (OA)

- Characterized by cartilage and underlying bone degradation

- Inflammation of the synovium (synovitis) is emerging as a catalyst for the disease
  - Primarily regulated by macrophages

- **Purpose**: Investigate the role of macrophages in OA and their contribution to synovitis

Methods

- PTOA surgery
  - \( n=4 \)
  - 4 weeks
  - 12 weeks

- Sham surgery
  - \( n=4 \)
  - 4 weeks
  - 12 weeks

- CD11b
- CD90
- CD11b/CD90 solution
- Magnetic-activated cell sorting (MACS)
- RNA analysis
  (DE genes, GSEA, Leading Edge, etc.)

Results

- Increased mobility and migration in early OA; M1 polarization and ECM remodeling in later stages

- Changing role of MAC should influence drug development and delivery

Conclusion