

Complications of Instability Repair

경상의대

박형빈

서론

관절 불안정증에 대한 수술적 수기의 현저한 개선으로 술 후 우수한 결과를 보고하고 있으나 합병증 빈도의 증가 또한 간과할 수 없는 현실이다. 본 장에서는 최근에 사용되지 않는 역사적 의미의 수술방법이나 수술 기구 등에 관련된 합병증의 서술은 지양하고, 최근 보편화된 관절경적 수기 중심으로 합병증의 종류, 빈도 등에 대하여 고찰하고 예방책에 관하여 알아보고자 한다. Weber 등²⁶⁾은 합병증의 발생률은 복잡한 수술을 시행할수록 증가하며 5.8~9.5%정도의 비율로 발생한다고 보고하였다.

본론

전관절 불안정증 수술 후 발생하는 합병증으로 불안정의 재발⁴⁻⁷⁾, 관절운동 제한⁸⁻¹⁵⁾, 관절증, 내고정물관련 합병증¹⁸⁾, 신경혈관 손상^{1,5,19-23)}, 견갑하근 건^{23,24)}의 손상 등이 알려져 있다.

1. Recurrent instability

- 1) Incidence: Suture anchor repair(0~30%)^{8,10,25)}
- 2) Causes:
 - A. Incomplete diagnosis: direction, laxity, bony deficiency^{3,15)}
 - B. Surgical error¹⁶⁾
 - C. Rehabilitation error
- 3) Prevention
 - A. Appropriate preoperative evaluation
 - B. Determination of clear surgical indications
 - C. Adequate surgical techniques and rehabilitation

2. Stiffness

- 1) Incidence:
- 2) Causes:
 - A. Excessive tightening
 - B. Degenerative arthrosis^{2,12,14)}
 - C. Hardware complications^{7,13,21,27,29)}

3) Prevention:

- A. Attain optimal preoperative ROM
- B. Anatomical reconstruction
- C. Avoid over tightening¹¹⁾
- D. Careful examination of the surrounding musculature⁶⁾

3. Arthrosis:

1) Causes

- A. Soft tissue contracture or over tightening²⁰⁾
- B. Local anesthetics⁴⁾
- C. Suture anchor related
- D. Suture knot related
- E. Thermal capsulorrhaphy^{5,9)}

2) Prevention

- A. Proper soft tissue tension
- B. Appropriate use of indwelling catheter and thermal shrinkage
- C. Accurate techniques for suture anchor fixation and knot tying

4. Hardware/implant related complications

1) Complications¹⁷⁾

- A. Migration
- B. Malposition and malplacement
- C. Bone resorption
- D. Infection

2) Prevention

- A. Accurate surgical technique
- B. new materials

5. Neurovascular injury

1) Nerve injury

- A. Incidence: 0% to 30%
 - B. Mostly neuropraxia
 - C. Cutaneous nerve injury around portal placement: most common²⁴⁾
 - D. Brachial plexus injury: Ulnar nerve injury¹⁾
 - traction injury: ipsilateral^{19,26)}
 - Compression injury: contralateral side¹⁸⁾
- Radial nerve sensory branch: compression injury

Axillary nerve: thermal capsular shrinkage²⁵⁾

Musculocutaneous nerve: retraction during open surgery

E. Interscalene block related

2) Vascular injury

A. Arterial injury: rare

B. Vein injury: cephalic vein injury around 5 O' clock portal)

3) Prevention

A. Appropriate padding

B. Minimal traction: 10 pounds

C. Proper portal creation

D. Proper knowledge

6. Tendon injury

A. Subscapularis tendon dysfunction^{22,23)}

결 론

수술을 시행하는 한 수술관련 합병증의 발생을 막을 수는 없을 것이나, 합병증의 발생 가능성을 항상 염두에 두고 수술 전 진단술을 철저히 시행하고, 수술 시기 및 기구 사용법에 대한 정확한 이해와 습득을 통하여 수술중 발생할 합병증을 최소화 하며, 술후 합병증을 조기 발견하여 적극적으로 치료함으로써 부작용의 정도를 최소화하는 것이 건관절 불안정증의 술후 합병증을 해결하는 최선의 방책이라 생각한다.

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