Anterior cruciate ligament reconstruction in a 75 years old man: a case report with review of literature

Raju Vaishya, Radhey Shyam Dhiman, Abhishek Vaish*

【**Abstract**】Anterior cruciate ligament (ACL) reconstruction is usually recommended for young patients. Several recent articles have however reported comparable outcomes of ACL reconstruction between youth and patients in fourth or fifth age group. But in the literature there are not many reports about ACL reconstruction in patients over 70 years old. We report a case of a successful arthroscopic ACL reconstruction (using single bundle quadrupled hamstring graft) in an active 75-year-old medical practitioner. Successful outcome after ACL reconstruction can be achieved in selected older patients; chronological age is no barrier.

Key words: ***Anterior cruciate ligament reconstruction; Knee; Age factors***

Chin J Traumatol 2014;17(2):121-124

Anterior cruciate ligament (ACL) reconstruction is usually recommended for young patients with functional instability either with sporting activity or activities of daily living. For middle-aged people, conservative treatment with an ACL tear was frequently advocated in the past.[1] Johnson et al[2] noted that 40 years is often cited as the age limit under which most patients can be treated successfully with surgery. Since the life expectancy of human population is increasing globally, some surgical procedures which are mainly used in young and middle aged people (like ACL reconstruction) are now likely to be offered to selected and healthy elderly individuals. In the last 15 years several articles have reported successful outcome in patients aged 40 to 60 years.[3-15] But in the literature there is few report of ACL reconstruction in patients over 70 years old.[16] We present a case of successful arthroscopic ACL reconstruction in a 75-year-old man.

CASE REPORT

A 75-year-old male medical practitioner sustained twisting injury to right knee while walking on uneven surface in his garden. The patient had no past history of knee problems and was otherwise healthy and very active. The patient was treated initially by use of knee brace and physical therapy for 3 months, which included cryotherapy, quadriceps and hamstring strengthening exercises. The rehabilitation continued for 3 months. Then the patient was examined but reported persistent pain and instability of the injured knee. His examination was remarkable for a mild effusion; the range of motion was 5° to 90°; he had a 3+ Lachman's test as well as both medial and lateral joint-line tenderness; and he was stable to varus, valgus or rotational forces. Plain radiographs with a flexion weight-bearing anteroposterior view showed only minimal reduction of tibio-femoral and patella-femoral joint spaces (Figure 1). The magnetic resonance imaging (MRI) study of his knee showed a complete ACL rupture (Figures 2, 3), an intact posterior cruciate ligament (PCL), moderate joint effusion and mild degenerative changes.

He continued to complain of an inability to manage activities of daily living because of knee instability and requested us to consider ACL reconstruction. His Knee Outcome Survey-Activities of Daily Living (KOS-ADL) score was 45%. KT-1000 measurement was not done due to non-availability. Despite his chronologic age, the patient was physiologically young and active, and after a

DOI: 10.3760/cma.j.issn.1008-1275.2014.02.014

Department of Orthopedics, Indraprastha Apollo Hospitals, New Delhi 110076, India (Vaishya R, Dhiman RS)

Department of Orthopaedics, Sancheti Hospital, Shivaji Nagar, Pune 420011, India (Vaish A)

*Corresponding author: Tel: 91-011-26925858, Email: raju.vaishya@gmail.com

Chinese Journal of Traumatology 2014;17(2):121-124

thorough discussion of potential benefits and risks, we elected to do ACL reconstruction. Examination under anaesthesia revealed a 3+ Lachman's test and a positive pivot shift test. Diagnostic arthroscopy confirmed that the patient had a complete ACL tear (Figure 4), a normal-looking medial meniscus and lateral meniscus and healthy articular cartilage in most part of the knee joint (Figure 5). His PCL was normal in appearance.

Single bundle ACL reconstruction was accomplished with a 4-strand hamstring (quadrupled semitendinosus and gracilis) graft obtained from the ipsilateral knee (Figure 6). The graft was fixed with a 9 mmx30 mm bio-screw (on the tibial side) and EndoButton (15 mm loop) on the femoral side. The femoral tunnel was made using an anteromedial portal. The procedure was uneventful, with a tourniquet time of 32 minutes.

Postoperatively, the patient was allowed to bear weight as tolerated. Standard rehabilitation emphasizing early range of motion, and quadriceps strengthening was accomplished. The patient was able to resume all activities by 3 months after the procedure. At 6 months follow-up he was very pleased with the outcome of the procedure and scored 95% on the KOS-ADL Scale proposed by Irrgang et al[17]. At one year follow-up, he had normal range of motion, no effusion, no tenderness, and a stable knee.

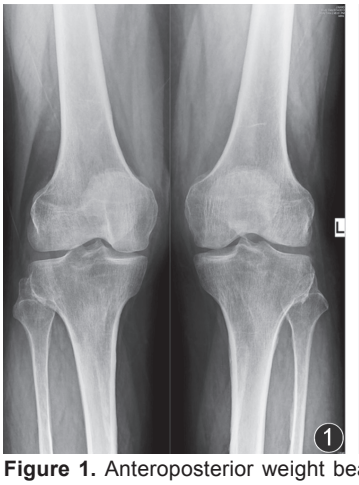
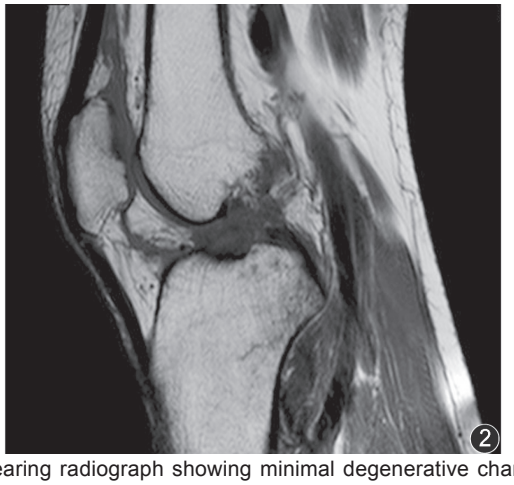
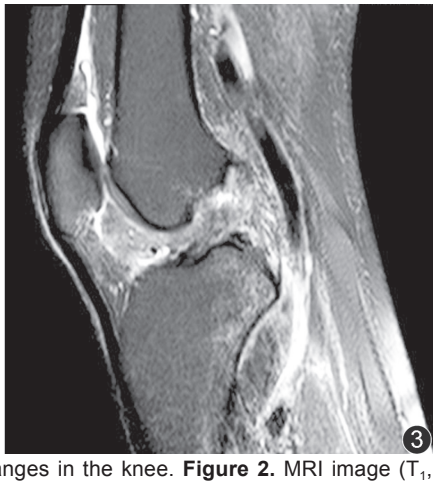

Figure 1. Anteroposterior weight bearing radiograph showing minimal degenerative changes in the knee. **Figure 2.** MRI image (T_1, sagittal) showing complete ACL tear with minimal effusion and intact articular cartilage. **Figure 3.** MRI image (T_2, sagittal) showing complete ACL tear with minimal effusion and intact articular cartilage.

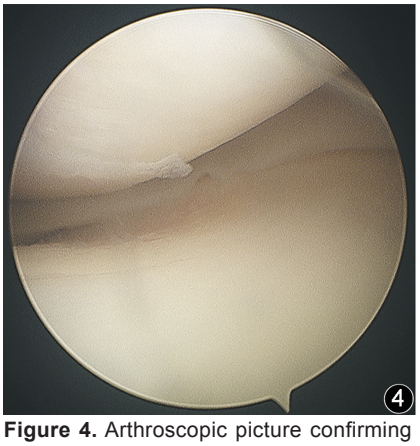
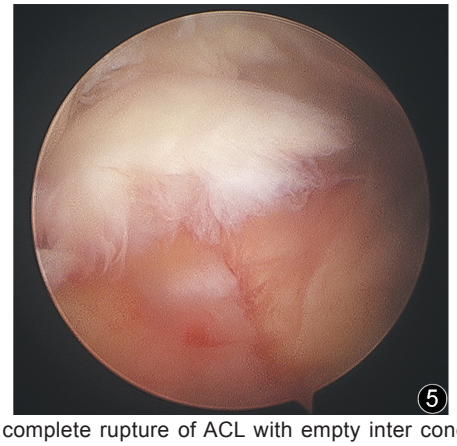
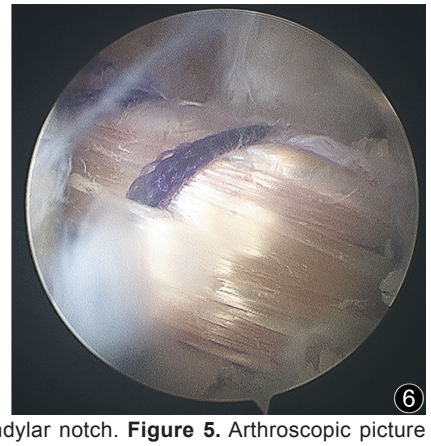

Figure 4. Arthroscopic picture confirming complete rupture of ACL with empty inter condylar notch. **Figure 5.** Arthroscopic picture showing minimal degenerative changes in the medial compartment. **Figure 6.** Arthroscopic ACL reconstructed knee showing single bundle hamstring graft in situ.