

Breakage of the tip of a flipcutter during ACL reconstruction: A rare complication of the knee arthroscopy

Mozimul haq siddiqui

Ex-Senior resident, Department of Orthopaedics, AIIMS, New Delhi, INDIA.

Email: mozimuls@gmail.com

Abstract

We report a case of broken tip of the reprocessed flipcutter guide pin (arthrex, Naples, FL) while drilling the tibial socket for the ACL reconstruction. The complication was identified immediately and the broken instrument removed piece meal. We have not come across such a case in the literature and it is the first report of its kind to our knowledge. Repeated use of flip cutter is to be avoided to prevent such hazards. Also care should be taken to lock the blades properly before starting to drill the sockets. Although instrument breakage is a rare complication during knee arthroscopy, orthopaedic surgeon should be aware of this complication and methods to deal with it.

Key Word: flipcutter, knee arthroscopy.

Address for Correspondence

Dr. Mozimul haq siddiqui, Department of Orthopaedics, Ex-Senior resident, AIIMS, New Delhi, INDIA.

Email: mozimuls@gmail.com

Received Date: 02/07/2015 Revised Date: 08/07/2015 Accepted Date: 11/07/2015

Access this article online

Quick Response Code:



Website:

www.statperson.com

DOI: 26 July 2015

INTRODUCTION

Arthroscopy of the knee has been associated with complications related to retained instruments secondary to breakage or detachment. Instrument breakage during knee arthroscopy is a rare complication with around 3 % incidence rate.¹ Most of the reported cases have broken punches, knives and suture needles left behind in the knee joint. In this case mechanical failure of the guide pin-retrograde drill system (flipcutter) occurred which was identified immediately and removed without any further complications. Retrograde socket creation with flip cutter has revolutionized anatomic minimally invasive socket placements for the all-inside knee reconstructive procedures. It is used for ACL, PCL reconstruction, meniscal root repairs and OATS patella. However they

are available in the market as sterile single use disposable kits. In the developing countries as an economizing measure, we are forced to use flipcutter multiple times against the manufacturer's advice. We report a rare case of intra-articular breakage of a reprocessed flipcutter during tibial socket preparation for the ACL reconstruction and its successful retrieval from the knee joint.

CASE REPORT

A 18 year old patient had suffered an injury to the right knee and presented to us with knee instability. Clinically and radiologically he had complete disruption of the ACL. So he was considered for the ACL reconstruction using a single bundle quadrupled semitendinosus graft. After initial diagnostic arthroscopy semitendinosus was harvested with mini incision technique. The graft was prepared and augmented with fiber tape and tightrope. While drilling tibial socket the flipcutter's blades broke. It was identified immediately and the flipcutter was advanced into the knee joint antegradely. The twisted blades were caught using a long artery forceps and removed piece meal through the antero medial portal. The remaining tip of flip cutter was straightened by compressing its end. It was removed carefully by retrograde drilling and inspected for its completeness.



Figure 1: The broken blades of the flipcutter



Figure 2: The shaft of the flipcutter whose tip is cut for the safe removal of the guide

DISCUSSION

Instrument breakage of various types of the hand and power instruments used in arthroscopy is a widely known complication. Gambardella and Tibone reported the removal of a broken knife blade from the knee joint. Haluk reported a case of extra-articular migration of the broken probe and its successful removal after 5 years of initial knee arthroscopy. There is also a case report on bent and broken arthroscope, and a report on broken femoral guide during ACL reconstruction. Arthroscopic techniques to reconstruct the anterior cruciate ligaments are constantly evolving.² With the number of ACL reconstructions continuing to increase, new devices and their complications are to be expected. The recent additions are the Cortical suspensory devices which have added advantage over the aperture fixation devices in terms of more anatomical and biological fixation. The use of single guide pin-retrograde drill system results in preservation of cortical bone bridge. The hall mark of flip cutter is that sockets are created rather than full tunnels.³ This results in intact extra articular cortices which results in decreased pain, swelling and synovial fluid flow through graft bone interaction. This allows for more complete fill of the socket with graft collagen and eliminates the need for interference fixation which can displace the graft to one portion of the aperture. It can be deleterious to healing by limiting interface area. Also their use results in the creation of more circular femoral sockets rather than oblique tunnels which is a possibility if the drill is more oblique from horizontal. Flip cutter is available for single use only. We used the reprocessed flip cutter for this patient. It was reused for the fourth time because of the financial constraints. Other reason for its breakage could be incomplete locking of the flip cutter blades. Ideally the blades should be locked in 90 degrees to the shaft of the pin. If not locked in that position mechanical failure may occur. Most of the reported cases had broken instruments while manipulating in the lateral

compartment of the knee especially during partial lateral meniscectomy.⁴ In this case instrument breakage occurred while drilling the tibial socket for the ACL reconstruction. If a metallic fragment is separated from the main instrument it is always advisable to stop the flow as it washes the fragment to inaccessible areas of the joint(4). It is also advisable to minimize the joint movement. Use of C-arm may help in identification of such fragments. If any difficulty is there in retrieving the fragment then arthrotomy can be attempted but it is seldom necessary.

CONCLUSION

It is always better to make it a habit to inspect the ends of arthroscopic instruments before and after the arthroscopic procedure. If any broken material is left behind in the joint it becomes the legal and financial liability of the surgeon. The orthopaedic surgeons need to be familiar with this complication and how to deal with it. It is always better if we can limit the use of flipcutter to a maximum of one or two time use with limited financial resources.

REFERENCES

1. Öztekin HH. An unusual complication of knee arthroscopy: an extra-articular migrated asymptomatic broken probe from the knee joint. *Arch Orthop Trauma Surg.* 2005 May 1;125(4):285–7.
2. Lynch JL, Anderson K. Anterior Cruciate Ligament Reconstruction: All-Inside Reconstruction. *Oper Tech Sports Med.* 2013 Mar;21(1):40–6.
3. Lubowitz JH, Amhad CH, Anderson K. All-Inside Anterior Cruciate Ligament Graft-Link Technique: Second-Generation, No-Incision Anterior Cruciate Ligament Reconstruction. *Arthrosc J Arthrosc Relat Surg.* 2011 May;27(5):717–27.
4. Allum R. Complications of arthroscopy of the knee. *J Bone Joint Surg Br.* 2002 Sep;84(7):937–4

Source of Support: None Declared
Conflict of Interest: None Declared