ISSN 2218-5836 (online)

World Journal of *Orthopedics*

World J Orthop 2024 March 18; 15(3): 201-309

Published by Baishideng Publishing Group Inc

World Journal of Orthopedics

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Monthly Volume 15 Number 3 March 18, 2024

World Journal of Orthopedics

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NAME OF JOURNAL
World Journal of Orthopedics

ISSN
ISSN 2218-5836 (online)

LAUNCH DATE
November 18, 2010

FREQUENCY
Monthly

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PUBLICATION DATE
March 18, 2024

PUBLISHING PARTNER
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World Journal of Orthopedics

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World J Orthop 2024 March 18; 15(3): 201-203

DOI: 10.5312/wjo.v15.i3.201

ISSN 2218-5836 (online)

EDITORIAL

Cyclops syndrome following anterior cruciate ligament reconstruction: Can relapse occur after surgery?

Recep Öztürk

Specialty type: Orthopedics

Provenance and peer review: Invited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's scientific quality classification

Grade A (Excellent): 0
Grade B (Very good): B
Grade C (Good): 0
Grade D (Fair): 0
Grade E (Poor): 0

P-Reviewer: Dudhamal TS, India

Received: November 6, 2023
Peer-review started: November 6, 2023
First decision: January 22, 2024
Revised: January 26, 2024
Accepted: February 29, 2024
Article in press: February 29, 2024
Published online: March 18, 2024

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Abstract

Symptomatic cyclops lesions are complications that can be seen at rates of up to approximately 10% after anterior cruciate ligament reconstruction. However, recurrent cyclops lesions have rarely been documented. There are case rare series in the literature regarding the treatment of recurrent cyclops lesion. Future large studies are needed to investigate factors contributing to the development of cyclops lesions and syndrome and treatment options.

Key Words: Cyclops lesion; Cyclops syndrome; Anterior cruciate ligament; Knee arthroscopy; Relaps

Core Tip: Although anterior cruciate ligament reconstruction is a surgery with low complication rates, it may sometimes require revision surgery. One of the reasons for this is cyclops syndrome, which can lead to knee extension limitation. However, recurrence after surgery is very rare. Discussion of this rare complication is important for the management of future complications.

Citation: Öztürk R. Cyclops syndrome following anterior cruciate ligament reconstruction: Can relapse occur after surgery? *World J Orthop* 2024; 15(3): 201-203
URL: https://www.wjgnet.com/2218-5836/full/v15/i3/201.htm
DOI: https://dx.doi.org/10.5312/wjo.v15.i3.201

INTRODUCTION

Anterior cruciate ligament (ACL) reconstruction is a well-defined and common

operation with very low complication rates. However, loss of knee extension that can be seen in some patients may require revision surgery. In 1990, Jackson and Schaefer detected a fibrous nodule on the ligament in a patient with loss of extension after ACL surgery. In this entity, which they call Cyclops syndrome, the impact of the nodule on the notch during extension restricts extension. It is known that this nodule develops as a result of a fibrotic process after repeated traumas[1-3]. In fact, cases with similar mechanisms have also been reported in patients who did not undergo ACL reconstruction. There are also patients who are not actually symptomatic but have positive findings on magnetic resonance imaging (MRI). Some studies report rates of up to 50% of asymptomatic MRI findings[4].

The diagnosis of cyclops lesion can be made by evaluating the postoperative clinical examination findings and MRI findings. When a cyclops lesion is detected, early surgery is the recommended method to prevent degeneration and other knee pathologies that may develop. We also know that early surgery is effective in providing range of motion[2].

When the reports published over the years are systematically examined, it is reported that symptomatic cyclops lesions can actually be seen in 2% to 11%. It is known that the use of hamstring or patellar graft does not constitute a risk factor in the development of cyclops lesion. However, there are also studies reporting that bone-tendon-bone graft is a risk factor [2,5]. In fact, the list of risk factors is long and most of time it is difficult to say which factors caused it in a case report.

In fact, the best treatment is to take precautions to prevent it from occurring, but if revision is necessary, it is to be done as soon as possible. However, performing it at least within the first year after surgery may contribute to the results. Additionally, an effective rehabilitation program should be applied after the second surgery. Delcogliano *et al*[6] and Eckenrode[7] reported that the results were successful in 4 and 3 patients, respectively, who were operated on within the first 1 year due to cyclops lesions. However, the results can sometimes be disappointing after all[2,8].

Although recurrence of the cyclops lesion after surgery is very rare, Kelmer *et al*[9] reported a case that recurred after bone-tendon-bone ACL reconstruction and required revision surgery twice. This case is a good example that shows all surgeons and physiotherapy teams dealing with ACL reconstruction the importance of precautions that must be taken to prevent this lesion from developing. The fact that full recovery occurred after two surgeries still supports that the best treatment is surgical release.

When comparing interventions performed without anesthesia and with anesthesia after the cyclops lesion, the results after anesthesia are better. This may indicate that compression-related pain also contributes to the etiology[1,10]. While approximately 20% to 35% of cyclops lesions are seen in second-look arthroscopy after anterior cruciate ligament reconstruction, approximately 80% of them are asymptomatic. As a result, it is a fact that asymptomatic lesions do not require intervention, and authors agree that surgery is required for cyclops lesions. However, there is still a need for comparative studies.

CONCLUSION

In conclusion, recurrence may occur after cyclops lesion surgery, although very rarely. future larger studies are needed to better understand what factors contribute to the development of cyclops syndrome and the etiology of recurrent cases. In addition, comparison results of different treatment modalities may contribute to determining the gold standard management method.

FOOTNOTES

Author contributions: Öztürk R wrote the manuscript.

Conflict-of-interest statement: The author states that there is no conflict of interest.

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S-Editor: Gong ZM
L-Editor: A
P-Editor: Zhao YQ

REFERENCES

1 **Kambhampati SBS**, Gollamudi S, Shanmugasundaram S, Josyula VVS. Cyclops Lesions of the Knee: A Narrative Review of the Literature. *Orthop J Sports Med* 2020; **8**: 2325967120945671 [PMID: 32923503 DOI: 10.1177/2325967120945671]

2 **Noailles T**, Chalopin A, Boissard M, Lopes R, Bouguennec N, Hardy A. Incidence and risk factors for cyclops syndrome after anterior cruciate

ligament reconstruction: A systematic literature review. *Orthop Traumatol Surg Res* 2019; **105**: 1401-1405 [PMID: 31405748 DOI: 10.1016/j.otsr.2019.07.007]

3 **Özturk R**, Karakoc Y. Arthroscopic Treatment of Benign Tumors and Tumor Like Lesions Located in and Around the Knee Joint. *ULUTAS Med J* 2018; **4**: 19 [DOI: 10.5455/umj.20181112082014]

4 **Facchetti L**, Schwaiger BJ, Gersing AS, Guimaraes JB, Nardo L, Majumdar S, Ma BC, Link TM, Li X; UCSF-P50-ACL Consortium; AF-ACL Consortium. Cyclops lesions detected by MRI are frequent findings after ACL surgical reconstruction but do not impact clinical outcome over 2 years. *Eur Radiol* 2017; **27**: 3499-3508 [PMID: 27986989 DOI: 10.1007/s00330-016-4661-3]

5 **Tomihara T**, Hashimoto Y, Nishino K, Taniuchi M, Takigami J, Tsumoto S, Katsuda H. Bone-patellar tendon-bone autograft and female sex are associated with the presence of cyclops lesions and syndrome after anterior cruciate ligament reconstruction. *Knee Surg Sports Traumatol Arthrosc* 2023; **31**: 2762-2771 [PMID: 36352241 DOI: 10.1007/s00167-022-07219-5]

6 **Delcogliano A**, Franzese S, Branca A, Magi M, Fabbriciani C. Light and scan electron microscopic analysis of cyclops syndrome: etiopathogenic hypothesis and technical solutions. *Knee Surg Sports Traumatol Arthrosc* 1996; **4**: 194-199 [PMID: 9046502 DOI: 10.1007/BF01567962]

7 **Eckenrode BJ**. An algorithmic approach to rehabilitation following arthroscopic surgery for arthrofibrosis of the knee. *Physiother Theory Pract* 2018; **34**: 66-74 [PMID: 28862529 DOI: 10.1080/09593985.2017.1370754]

8 **Öztürk R**. Do we have sufficient evidence of return-to-sports timing after anterior cruciate ligament reconstruction? *Med J Islamic World Acad Sci* 2019; **27**: 65-66 [DOI: 10.5505/ias.2019.81568]

9 **Kelmer G**, Johnson AH, Turcotte JJ, Redziniak DE. Recurrent cyclops lesion after primary anterior cruciate ligament reconstruction using bone tendon bone allograft: A case report. *World J Orthop* 2023; **14**: 836-842 [PMID: 38075472 DOI: 10.5312/wjo.v14.i11.836]

10 **McMahon PJ**, Dettling JR, Yocum LA, Glousman RE. The cyclops lesion: a cause of diminished knee extension after rupture of the anterior cruciate ligament. *Arthroscopy* 1999; **15**: 757-761 [PMID: 10524824 DOI: 10.1016/s0749-8063(99)70008-3]

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