

Comment on “Heterotopic ossification after arthroscopy for hip impingement syndrome”

Ming-Jin Zhong, Kan Ouyang

Department of Sports Medicine, The First Affiliated Hospital of Shenzhen University, Health Science Center; Shenzhen Second People's Hospital, Shenzhen, Guangdong 518000, China.

We have read with great interest the article “Heterotopic ossification after arthroscopy for hip impingement syndrome” by Gao *et al.*^[1]

The authors showed the incidence of heterotopic ossification (HO) is an observed complication after hip arthroscopy for hip impingement syndrome which is not common (5.4%, 13/242) and most HO has no or little effect on clinical symptoms. We also agree with them that oral non-steroidal anti-inflammatory drugs (NSAIDs) are beneficial in the prevention of HO after primary hip arthroscopy. Although we agree with the conclusion similar to our previous studies in the clinic, there are some issues we like to comment on.

First, 13 cases of HO were observed among the 242 patients in this study. Nine showed Brooker stage I, three Brooker stage II, and one Brooker stage III. However, the location of HO formation is not described. The causes and the risk factors for HO are not yet understood, but surgical trauma may be a crucial factor.^[2] We do think the anterior and lateral of the hip joint is the surgical zone of the hip arthroscopy procedure and HO is most vulnerable to happen in those areas. What's more, HO as a response to trauma in the musculoskeletal system and has been described in tendons, ligaments, muscles, and other soft tissues throughout the body.^[3] We could see HO located on the extra-capsule, acetabular rim and anterior inferior spine in Figure 1. The authors used ultrasound examination to dynamically detect HO after surgery, but they did not describe the relationships between HO and capsule, labrum, iliopsoas tendon, or rectus femoris. These details may give us a clue on the source of the disease.

Second, the authors described various types of procedure (loose body remove, iliopsoas release, chondroplasty, osteoplasty, and so on) between HO group and No HO group. But the associations between the types of

arthroscopic procedures performed and the development of HO is not mentioned. We are interested to know if the capsule repaired or unrepaired between two groups, because osteoplasty with a capsular cut is more like susceptible to HO.^[4]

In most situations, HO was asymptomatic, and the revision surgery to excise HO may be required in patients who are experiencing refractory pain and/or restricted motion.^[5] It is important to identify the source of symptoms. The authors described that four patients were under revision surgery, and concomitant osteoplasty, subspine release, trochanteric bursectomy, and other procedures were performed. We would like to know if the symptoms come from HO or residual impingement, bursitis and iliopsoas tendinitis that were not treated during the primary surgery.

Third, HO prophylaxis with NSAIDs such as naprosyn, indomethacin, and etoricoxib has been proven to decrease the rate of HO post-hip arthroscopy.^[5] However, NSAIDs regimens each has its respective benefits and risks. It is very important for the authors to assess the aspects of medicine effectiveness and side-effect in a long time. Until now, there is no consensus on kinds of drugs, medicine dose and medicine time of HO prophylaxis. Therefore, we recommend subsequent research could be performed so as to develop guidelines for preventing HO after hip arthroscopic surgery for all the surgeons

Authors' Reply

It is our great pleasure to receive comment from Drs. Zhong and Ouyang. The following is our response.

First, the location of HO in this study is in the anterior and lateral of the hip joint capsule. We did not find HO in tendons, ligaments, or muscles in these 13 patients. In further research, we would study and analyze the position

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Correspondence to: Dr. Ming-Jin Zhong, Department of Sports Medicine, The First Affiliated Hospital of Shenzhen University, Health Science Center; Shenzhen Second People's Hospital, Shenzhen, Guangdong 510378, China
E-Mail: sportsmedzhong@sina.com

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of HO in more patients to give a clue on the source of the disease.

Second, we did not find statistical significance among various types of procedure. All capsule in this study was not repaired. Four patients in our study underwent revision surgery. It is really hard to tell the source of symptoms in these patients. All symptoms relieved after HO resection and concomitant procedure. In the future study, we maybe use ultrasound-guided injections to distinguish intra-capsule or extra-capsule pain, but the accuracy of identification is still unknown.

Third, we agree with your opinion about the importance of assessing the aspects of medicine effectiveness and side-effect in a long time. Further study is needed to come up with guidelines for preventing HO after hip arthroscopic surgery.

Conflicts of interest

None.

References

1. Gao GY, Zhang X, Dai LH, Huang HJ, Wu RQ, Ju XD, *et al.* Heterotopic ossification after arthroscopy for hip impingement syndrome. *Chin Med J* 2019;132:827–833. doi: 10.1097/CM9.000000000000153.
2. Dey D, Wheatley BM, Cholok D, Agarwal S, Yu PB, Levi B, *et al.* The traumatic bone: trauma-induced heterotopic ossification. *Transl Res* 2017;186:95–111. doi: 10.1016/j.trsl.2017.06.004.
3. Ranganathan K, Loder S, Agarwal S, Wong VW, Forsberg J, Davis TA, *et al.* Heterotopic ossification: basic-science principles and clinical correlates. *J Bone Joint Surg Am* 2015;97:1101–1111. doi: 10.2106/JBJS.N.01056.
4. Bedi A, Zbeda RM, Bueno VF, Downie B, Dolan M, Kelly BT. The incidence of heterotopic ossification after hip arthroscopy. *Am J Sports Med* 2012;40:854–863. doi: 10.1177/0363546511434285.
5. Kurz AZ, LeRoux E, Riediger M, Coughlin R, Simunovic N, Duong A, *et al.* Heterotopic ossification in hip arthroscopy: an updated review. *Curr Rev Musculoskelet Med* 2019;12:147–155. doi: 10.1007/s12178-019-09543-9.

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