

Adrenaline hip joint infiltration before portal placement can be used to diminish intra-articular bleeding and improve arthroscopic view during further capsulotomy

JA Jansen¹, A White²

¹Rijnland Hospital, Netherlands

²Southend University Hospital NHS Foundation Trust, UK

CORRESPONDENCE TO

Joris Jansen, E: j.jansen@rijnland.nl

BACKGROUND

Portal placement in hip arthroscopy can be challenging owing to bleeding after arthroscope introduction, making further capsulotomy and additional portal placement more difficult.

TECHNIQUE

In order to diminish intra-articular bleeding at the beginning of the procedure, adrenaline can be used. After intra-articular needle placement with fluoroscopy, 1ml adrenaline (1:1,000) diluted in 5ml normal saline is infiltrated into the hip joint. This adrenaline solution is left inside for one minute before further portal development is undertaken.

DISCUSSION

Although never published in hip arthroscopy, intra-articular injection of adrenaline with local anaesthetic has been described in knee arthroscopy over 20 years ago.¹ Combined injection with adrenaline

was found to be safe to establish clear arthroscopic view during anterior cruciate ligament reconstruction.² Adrenaline irrigation during arthroscopic knee surgery can also reduce the need for tourniquet usage in 50% of cases.³ A prospective randomised, double blind and placebo controlled study showed significantly reduced intra-articular bleeding with adrenaline irrigation during shoulder arthroscopy.⁴ Visual field clarity during arthroscopy, rated on a visual analogue scale, was shown to be better in the adrenaline irrigation group. No cardiovascular adverse reactions were observed.

In a more recent prospective, randomised, double blind study with 130 knee arthroscopy patients, adding adrenaline to injection fluid was associated with less bleeding at portal sites, shorter arthroscopy time, less irrigation fluid usage and better arthroscopic view.⁵ No significant changes in heart rate, mean arterial pressure or any other complications were reported.

References

1. Gyrn JP, Olsen KS, Appelquist E *et al.* Intra-articular bupivacaine plus adrenaline for arthroscopic surgery of the knee. *Acta Anaesthesiol Scand* 1992; **36**: 643–646.
2. Furia JP, Zambetti GJ. An injection technique to create a bloodless field in arthroscopically assisted anterior cruciate ligament reconstruction. *Am J Sports Med* 1992; **20**: 406–409.
3. Olszewski AD, Jones R, Farrell R, Kaylor K. The effects of dilute epinephrine saline irrigation on the need for tourniquet use in routine arthroscopic knee surgery. *Am J Sports Med* 1999; **27**: 354–356.
4. Jensen KH, Werther K, Stryger V *et al.* Arthroscopic shoulder surgery with epinephrine saline irrigation. *Arthroscopy* 2001; **17**: 578–581.
5. Karaoglu S, Dogru K, Kabak S *et al.* Effects of epinephrine in local anesthetic mixtures on hemodynamics and view quality during knee arthroscopy. *Knee Surg Sports Traumatol Arthrosc* 2002; **10**: 226–228.