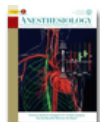


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October 19, 2011
 8:00:00 AM - 11:00:00 AM
 Hall A1 South Area H

Ultrasound-guided Peribulbar Block: First Description of a Technique on Fresh Human Cadavers

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Introduction: Peribulbar anesthesia (PBA) is the gold standard for eye surgery despite a high rate of failure and severe complications reported (1). Ultrasound-guided needle introduction and direct visualization of the spread of local anesthetic (LA) could improve efficacy and safety of PBA. A previous observational clinical study showed that a crescent shaped spread of LA behind the eyeball was related to the success of PBA using the classical landmarks.

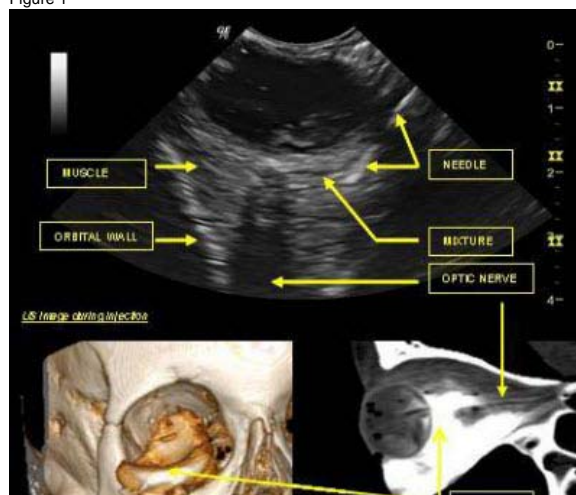
The aim of this ultrasound guided study on human cadavers was to define positions of the probe, the standardized ultrasound (US) and anatomic images allowing optimal needle introduction and spread of injected fluid toward the target space

Methods: 14 PBA in 7 fresh human cadaver heads were performed under US guidance using a small curved array probe 8C (ultrasound device Logiq e, GE Healthcare, eye settings : IM< 0.23, IT<1). A 50mm needle (Sonoplex, 21G, Pajunk) was introduced lateral to the eyeball until its tip was seen on the posterior and lateral side of the eyeball. The aim was to obtain a spread surrounding the posterior side of the globe. A mixture of LA, latex, contrast dye and blue acrylic dye was then injected. A superomedial puncture was performed on the right eye and inferolateral one on the left. After the injection, the spread of the mixture was documented by means of CT scans and anatomic dissection performed on each head and orbit.

Results: 4 US views were standardized allowing real-time visualisation of the needle till the target space in all the procedures. The crescent shaped spread posterior to the eyeball was seen in real time with US in 10 out of 14 cases. The CT scan showed similar distributions in the 10 cases with the contrast dye observed in the cone and behind the posterior sclera. No contrast dye was found inside the orbital muscles, the optic nerve or inside the eyeball. The orbit displayed the same distribution on CT scan and dissection images. The procedure was performed quickly and easily.

Conclusions: This new PBA ultrasound-guided technique could improve the safety and the efficacy of the PBA by direct visualization of the needle placement and the distribution of the injected fluid. Clinical evaluations are required to confirm these results. **References:** 1 Anesth Analg. 2008

Figure 1



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