

## 209 INJECTING PRESSURES DURING REGIONAL ANAESTHESIA. CAN PRACTITIONERS PREDICT SAFETY OBJECTIVELY?

<sup>1</sup>D White\*, <sup>1</sup>P Young, <sup>1</sup>B Fox, <sup>1</sup>J Stimpson, <sup>2</sup>S Southey, <sup>1</sup>R Heij. <sup>1</sup>The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust, King's Lynn, UK; <sup>2</sup>Catena Consulting, London, UK

10.1136/rapm-2021-ESRA.209

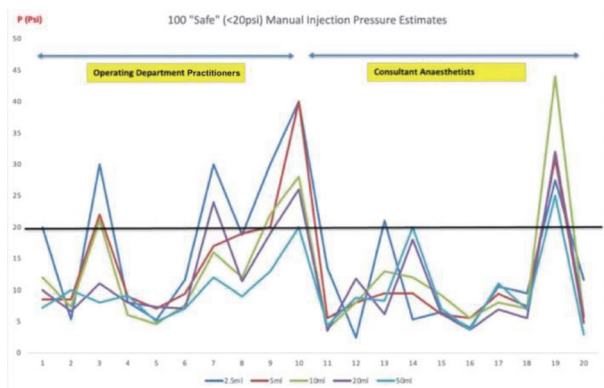
**Background and Aims** Nerve injury is a rare but well-known complication of regional anaesthesia and may arise from high pressure administration of local anaesthetic directly into nerve fascicles.

Safe injection pressures (< 20psi) <sup>1,2</sup> are subjective to estimate with manual injection, and this task is often delegated to skilled assistants. Pressure-limiting injection devices such as SAFIRA® (Medovate, UK) have been designed to reduce this risk.

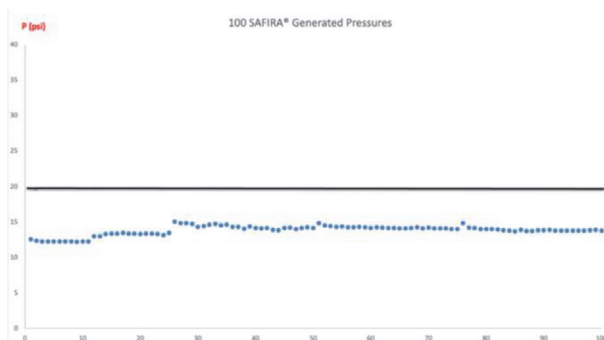
This study measures injection pressures deemed 'safe' by experts and compares them with that of SAFIRA®.

**Methods** Following IRB approval and with consent, ten skilled Operating Department Practitioners (ODPs) and ten Anaesthetists were recruited to inject 0.9% Saline at the 'highest pressure they thought safe' using a series of syringes (2.5 ml, 5 ml, 10 ml, 20 ml and 50 ml) attached to a Fluke 700GO6® pressure transducer (Fluke Corp, WA, USA). One hundred measurements were recorded.

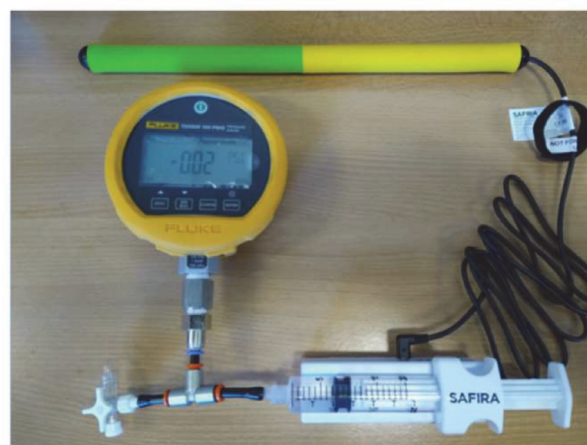
We then attached the SAFIRA® device (fitted with a 20 ml syringe) to the pressure transducer and measured the machine-limited pressure 100 times for comparison.



Abstract 209 Figure 1



Abstract 209 Figure 2



Abstract 209 Figure 3

**Results** In 21/100 manual injections, estimated 'safe' pressure was exceeded, with the highest measured at 44psi.

Though the data was skewed by a few individuals, 50% of ODPs and 30% of Anaesthetists injected at pressures  $\geq 20$ psi at least once (at all syringe sizes).

Cut-off pressures from SAFIRA® were consistently below 20psi.

**Conclusions** Practitioners best estimates of safe manual injection pressure is inaccurate. In contrast, a calibrated and engineered solution such as SAFIRA® does not require subjective user estimation.

## 210 APPLICATION OF PERIPHERAL NERVE BLOCK ON A PATIENT WITH MULTIPLE SCLEROSIS

F Özdemir, Ü Yaman, ÜA Türkmen, S Soylu\*. T.C Sbü Gaziosmanpaşa Education and Research Hospital, Istanbul, Turkey

10.1136/rapm-2021-ESRA.210

**Background and Aims** Multiple Sclerosis (MS) is an autoimmune disease of the Central Nervous System (CNS) In our case, we present our anesthesia management applied on a MS patient. Our patient was 47 years old, 167 cm tall, 75 kg female and has been diagnosed with MS for 20 years. She had a left ankle fracture and had lower extremity surgery.

**Methods** After visualizing the sciatic nerve in sub-gluteal region with a linear US probe in lateral decubid position, the neurostimulator was started at 2 Hz frequency at stimulation level of 0.8 mA with 0.1 ms intervals. When motor response was seen, the stimulation level was reduced to 0.4 mA. When motor response disappeared, 20 ml of 0.5% Bupivacaine hydrochloride (100 mg) was administered around the sciatic nerve with an 80 mm block needle. Afterwards, the patient was put in supine position. 15 ml of 0.5% Bupivacaine (75 mg) was administered around the femoral nerve. Motor and sensory tests were applied 30 minutes after the procedure. Her vitals remained stable throughout the surgical operation. She was discharged to the orthopedic service.

**Results** When a nondepolarizing muscle relaxant is used, resistance or sensitivity has been observed as a result of proliferation of extra-connective cholinergic receptors due to upper motor neuron plaques (3). Most of the limited studies, support US-guided peripheral nerve blocks in MS and report that