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**Research Article**      **Published Date:-2017-12-01 00:00:00**

[Quantification of the pressures generated during insertion of an epidural needle in labouring women of varying body mass indices](#)

**Objective:** The primary aim of this study was to measure pressure generated on a Tuohy needle during the epidural procedure in labouring women of varying body mass indices (BMI) with a view of utilising the data for the future development of a high fidelity epidural simulator. High-fidelity epidural simulators have a role in improving training and safety but current simulators lack a realistic experience and can be improved.

**Methods:** This study was approved by the National Research Ethics Service Committee South Central, Portsmouth (REC reference 11/SC/0196). After informed consent epidural needle insertion pressure was measured using a Portex 16-gauge Tuohy needle, loss-of-resistance syringe, a three-way tap, pressure transducer and a custom-designed wireless transmitter. This was performed in four groups of labouring women, stratified according to BMI kg/m<sup>2</sup>: 18-24.9; 25-34.9; 35-44.9 and  $\geq 45$ . One-way ANOVA was used to compare difference in needle insertion pressure between the BMI groups. A paired t-test was performed between BMI group 18-24.9 and the three other BMI groups. Ultrasound images of the lumbar spine were undertaken prior to the epidural procedure and lumbar magnetic resonance imaging (MRI) was performed within 72h post-delivery. These images will be used in the development of a high fidelity epidural simulator.

**Results:** The mean epidural needle insertion pressure of labouring women with BMI 18-24.9 was 461mmHg; BMI 25-34.9 was 430mmHg; BMI 35-44.9 was 415mmHg and BMI  $\geq 45$  was 376mmHg, (p=0.52).

**Conclusion:** Although statistically insignificant, the study did show a decreasing trend of epidural insertion pressure with increasing body mass indices.

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**Case Report**      **Published Date:-2017-09-20 00:00:00**

[Evolution of anaesthesia in transapical aortic valve implantation Running head: Anaesthesia and transcatheter valve](#)

The Transcatheter Aortic Valve Implantation (TAVI) had emerged more and more in the last twenty years. According to the scientific literature, this is an approved, suitable and alternative therapeutic choice to conventional surgery for aortic valve disease in high risk patients. The most of patients are octogenarians or nonagenarians, with multiple comorbidities (neurological,vascular,oncologic, haematological, etc). The evolution of TAVI techniques and its devices have improved the quality of results and reduced the peri- and post-procedural complications. Cardiac anaesthesia and analgesia in TAVI patients is very important and fundamental to a quickly and complete clinical restoring after the procedure. An optimal balance of drugs and peri-procedural management could reduce the neurological events (such as delirium), the days of hospitalization and the admission of intensive care unit. According to our experience in transapical approach, the low dose of propofol and desflurane allowed to optimal cardiac anaesthesia and rapid mechanical ventilation weaning in complex patient undergone to transcatheter valve implantation with transapical approach. Moreover, our protocol reduced considerably the incidence of perioperative delirium.

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**Research Article**      **Published Date:-2017-06-21 00:00:00**

[Endovascular treatment of complex cerebral arterial saccular aneurysms with different methods of coiling: 14 years of experience review](#)

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The Objective: to improve the treatment results for patients with cerebral arterial saccular aneurysms by optimizing of differentiated approach to the using of endovascular assisting occlusion techniques.

Materials and Methods: The work is based on the comprehensive survey and treatment of 1345 patients with cerebral saccular arterial aneurysms (AA), who were treated at the SO "Scientific-Practical Center of endovascular neuroradiology of NAMS of Ukraine" from 2002 to 2016. 214 cases were selected for further clinical-instrumental dynamic observation in follow-up period. All patients were operated by endovascular approach in "before hemorrhage" period, in acute or "cold" period of the disease on for symptomatic or asymptomatic intracranial saccular AA in both vascular pools with balloon-remodeling or stent-assisting techniques using with the coiling or just detachable coils (DC) using-mono-coils occlusion technique. Depending on the initial endovascular occlusion method, the patients were divided into three groups for observation: I group (mono-coils occlusion)-82 (38.3%) patients, II group (balloon-remodeling technique using)-68 (31.8%) patients, group III (stent-assisting technique occlusion)-64 (29.9%) patients. The life quality and the level of social adaptation were evaluated before hospital discharge and at the follow-up control examinations by Glasgow Outcome Scale (GOS) and by the modified Rankine scale (mRS). AA radicalism occlusion was assessed by Modified Raymond-Roy Scale (MRRS) (Mascitelli JR, et al., 2015). AA occlusion I and II by MRRS was considered as "Effective".

Results: 9 criteria of cerebral saccular AA complexity inherent in endovascular surgery have been developed based on the technical and surgical features of endovascular methods of the cerebral AA occlusion and X-ray-anatomical characteristics of aneurysms, which complicated the "effective" reconstructive occlusion of AA cavity.

The evaluation of the AA complexity criteria prognostic significance to achieve the "effective" primary occlusion, shown different results in different groups: high prognostic significance of 4 criteria was shown in group I, of 2 criteria - in group III, and no any criteria significance in group II.

There was no statistically significant difference between groups in the primary AA occlusion efficacy and initial good results by GOS and mRS.

It was proved that endovascular occlusion of complex cerebral AA with the assisting methods using has high efficiency in all periods of the disease, unlike the method of mono-coils occlusion, which is most effective in acute and "cold" periods.

There was no statistically significant difference between the number of intraoperative, postoperative and non-surgical complications ( $p > 0.05$ ).

It was found that all methods of complex AA endovascular occlusion can effectively prevent the disease recurrence despite the differences between them in the stability of the AA cavity occlusion.

Conclusions: Consideration of developed AA complexity criteria during endovascular surgery planning allows to choose the most optimal and safe individual method of primary or phased AA occlusion and helps to reduce the frequency of AA recanalization in follow-up period. The choice of the complex AA occlusion method doesn't effect on result of primary treatment, the number of intraoperative complications and the quality of primary occlusion. However, an analysis of the long-term treatment results indicates that the assisting techniques have proven advantages according to the occlusion stability.

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## Case Report

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### [Submitral Ventricular Pseudoaneurysm: Unusual and Late Complication of Cardiac Surgery](#)

Despite the background of advances in cardiac surgery procedures for higher risk population, the postoperative complication has already been a challenge for cardiac surgeon and Heart-Team. Future perspectives to exceed this challenge could be periodically patient's follow up and advance diagnostic workup. We describe the diagnosis of a large sub mitral left Ventricle Pseudoaneurysm that was identified in a 59-year-old woman 17 years after she underwent aortic and mitral valve replacement for rheumatic valvular disease

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