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Research paper

A 5-year experience in functional endoscopic sinus surgery under local anaesthesia

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ABSTRACT

Introduction: Functional endoscopic sinus surgery (FESS) under local anaesthesia performed as an office-based procedure is an alternative to general anaesthesia. It is gaining popularity among otorhinolaryngology – head and neck surgeons.

Aim: This study assesses the outcome of FESS performed under local anaesthesia in a tertiary centre over a 5-year period.

Material and methods: A retrospective data collection was conducted. All adults who underwent FESS under local anaesthesia for a 5-year period from June 2014 to June 2019 in Otorhinolaryngology-Head and Neck Surgery (ORL-HNS) Department, Sarawak General Hospital, Malaysia were included in this study. Data and information on preoperative assessment, surgical indication, sinuses operated on, intraoperative findings and postoperative complications and follow up were recorded.

Results and discussion: A total of 150 patients met the inclusion criteria. The most common indication was chronic rhinosinusitis with nasal polyp (78%). All paranasal sinuses were operated on. In 43% of cases local anaesthesia was used alone, while 57% received both local anaesthesia and intravenous anaesthesia. Majority of patients (90%) were discharged home the next day. Four patients (2.7%) developed epistaxis postoperatively which did not require surgical intervention.

Conclusions: FESS under local anaesthesia is a safe and feasible alternative to general anaesthesia and is well tolerated by patients. Complications of general anaesthesia can be avoided.

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1. INTRODUCTION

Recent advancement in techniques and surgical instrumentation has seen more rhinological procedures being performed in the office setting under local anaesthesia. Functional endoscopic sinus surgery (FESS) is a procedure that is commonly performed in the otorhinolaryngology unit and is normally done under general anaesthesia. However, many centres are currently performing FESS as an office-based procedure under local anaesthesia with minimal complications while avoiding the risks of general anaesthesia. In Malaysia, it is still uncommon for FESS to be performed under local anaesthesia.

In this study, we collect data on the outcome of FESS performed under local anaesthesia in the Otorhinolaryngology Head and Neck Surgery Department, Sarawak General Hospital, a tertiary centre in the island of Borneo.

2. AIM

The objective of this study is to evaluate the outcome of FESS under local anaesthesia in our centre.

3. MATERIAL AND METHODS

3.1. Data collection

A retrospective data collection was performed on all patients who had undergone FESS under local anaesthesia between June 2014 to June 2019 in the Otorhinolaryngology Head and Neck Surgery, Sarawak General Hospital, Malaysia. We included all patients who had undergone FESS under local anaesthesia in our center and excluded patients whose data were incomplete or lost to follow up. A total of 150 patients met the inclusion criteria. Data and information that were collected includes age, sex, underlying co morbidities, wait time, indication for surgery, type of surgery, intra operative and post-operative surgical complications. For each case, we also collected data on the sinuses that were operated on, whether the FESS was unilateral or bilateral, duration of the surgery and whether any previous surgery was performed for the patient. Wait time was defined as the time from the last clinic visit when the decision for surgery was made until the day of surgery. All of the surgeries were performed by 4 surgeons with at least 2 years of surgical experience and have assisted the surgical consultants in multiple FESS under local anaesthesia. All FESS were performed in the Otorhinolaryngology Head and Neck Surgery Department of Sarawak General Hospital following the protocol in Appendix 1. The data were tabulated and analyzed by simple data analysis using percentage and proportions.

3.2. Surgical procedure

Patients were assessed a day prior in the ENT clinic and then admitted at 6 a.m. on the day of surgery. Branulla was inserted and the patients' blood pressure, pulse rate and oxygen saturation were monitored continuously throughout the procedure. Lignocaine gel and nasal packing were then inserted 30 minutes before surgery. Lignocaine gel was applied at the osteomeatal complex region, inferior and middle turbinates for FESS or to the septum for septoplasty. Nasal cavity was then packed with cottonoid soaked with a mixture of adrenaline, cocaine and normal saline: 1 mL of adrenaline (1 : 1000), 2 mL of cocaine (10%), and 4 mL of normal saline. The patient's face was cleaned with normal saline and head drape applied. Dental local anaesthesia was administered at the axillary of the middle turbinate for FESS or septum for septoplasty. If the patients experienced any discomfort or pain, an initial dose of 25 μg of intravenous pethidine will be administered and if needed, an additional 25 μg will be given for a total maximum dose of 50 μg. A fully equipped resuscitation trolley was available in the Department, and if the need arises the code blue team was on standby. FESS (uncinate process, anterior ethmoid, posterior ethmoid and middle antrostomy) and septoplasty was then performed. The patients were reminded to swallow any blood or fluid that was trickling down from the nasopharynx to prevent coughing or choking. Hemostasis was secured with bipolar diathermy, adrenaline packing, gentle and minimum normal saline flushing. The nasal cavity was then packed with NasoPore or Merocell intraoperatively. The patients were observed in the ward postoperatively. Patients that stayed near the hospital can be allowed home 4–6 h after observation in the ward. Postoperatively, medications that were prescribed to patients included a course of oral antibiotics, usually from the penicillin group, topical decongestant, antihistamine, oral painkiller if needed and nasal lavage. Intranasal steroid spray was started a week after surgery. We reviewed the patients a week after surgery for nasal toileting in the ENT clinic, then 2 weeks to a month later.

4. RESULTS

A total of 158 patients were operated on during that period. However, data were only collected from 150 patients as 8 were lost in follow up. There were 99 male and 51 female patients. The majority were from the 51–60 years old age group, which makes up about 27% of the total number of patients. The youngest patient was 14 years old while the oldest patient was 77 years old, with a mean age of 45.4 ± 15.1 years. More than half of the patients (59%) did not have any comorbidities while the remaining ones had either one or a combination of underlying medical illnesses such as hypertension (13%), diabetes mellitus (7%) and bronchial asthma (12%). The most common diagnosis (Table 1) was chronic rhinosinusitis with nasal polyposis which constitutes more

Table 1. Diagnosis.

Diagnosis	Number of patients (n = 150)
Chronic rhinosinusitis with nasal polyp	119
Chronic rhinosinusitis without nasal polyp	17
AntroChoanal polyp	14