

Wound haematoma as a common complication following carotid endarterectomy: incidence and consequences!

Mina Abdelmalak, Marina Estefan, Jag Naik

INTRODUCTION

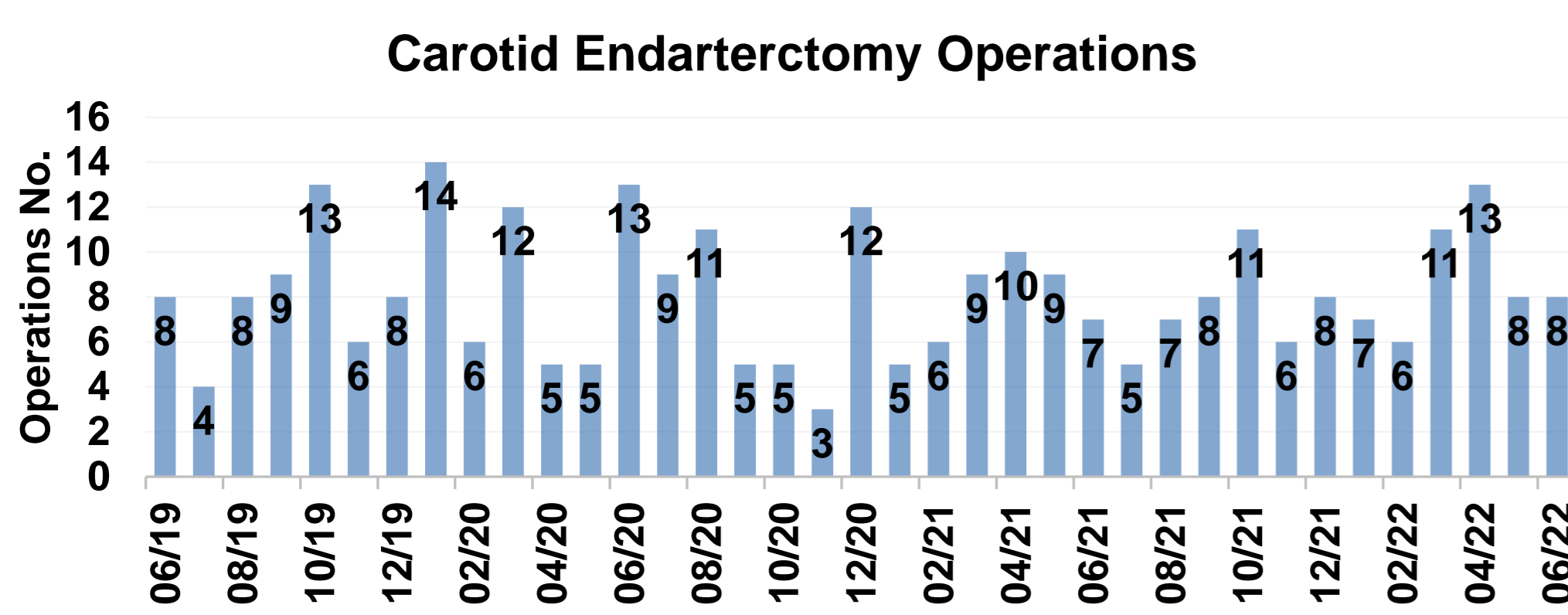
Stroke accounts for 1.1m deaths annually in Europe and it is considered the second commonest cause of death after coronary artery disease (CAD) (1,2). Primary and secondary prevention aim to prevent transient ischaemia attacks (TIA)/stroke incidence and recurrence secondary to carotid or vertebral artery stenotic lesions; therefore, carotid endarterectomy (CEA) became the standard procedure. Common complications of CEA include wound haematoma, that could be serious enough to obscure the airway and cause life threatening emergency, haemodynamic instability, cranial nerve injury, infection, stroke or death. Wound haematoma mostly occurs in the first 6 hours of CEA and quite often following untreated hypertension (3). In a meta-analysis of six RCTs (n = 2 988) 2.2% (95% CI 1.2 e 3.9) developed haematoma requiring re-exploration (4). The incidence of in-hospital complications in patients who develop wound haematoma and require emergency wound exploration was found to be significantly higher than those who do not, as stroke (3.7% vs 0.8%; P < .001), MI (6.2% vs 0.8%; P < .001), and death (2.5% vs 0.2%; P < .001) (5).

METHODS

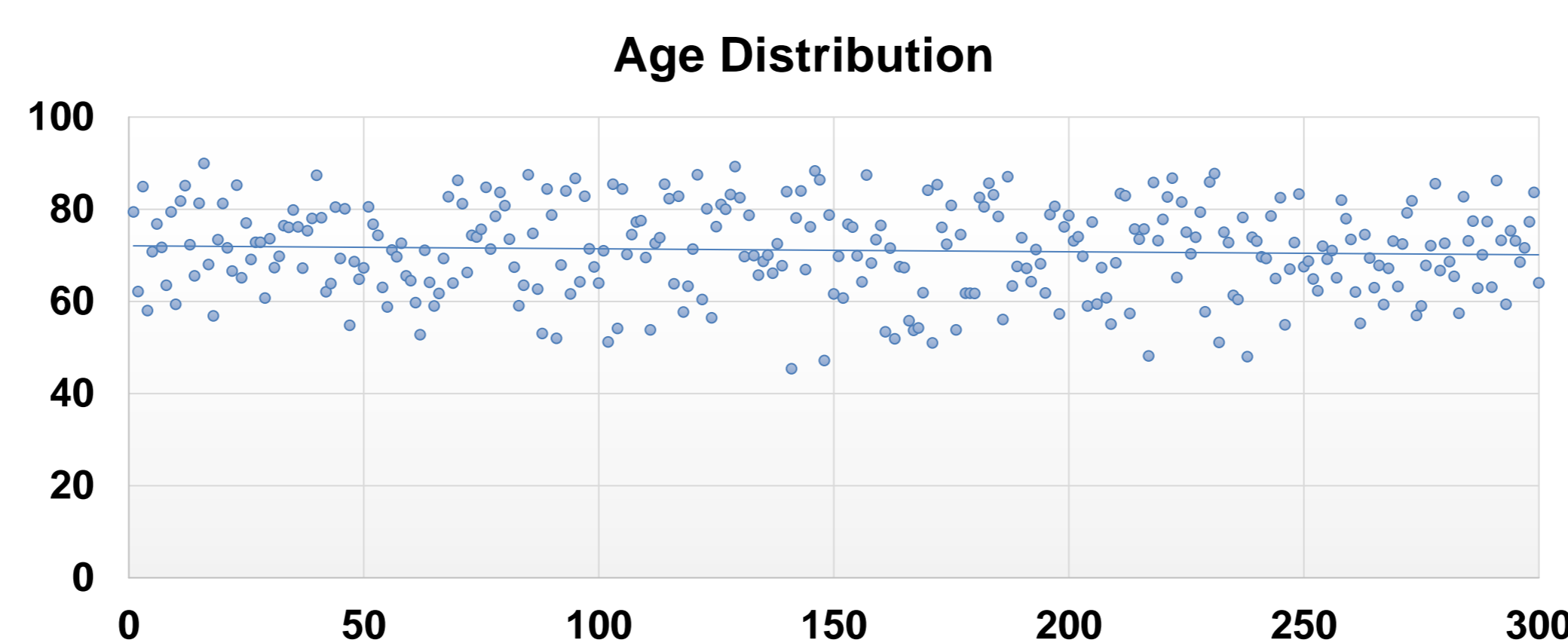
We report a retrospective study of CEA done in a vascular tertiary centre between 2019 to 2022. Patients' records were retrieved and audit in terms of demographic data, indication of surgery, peri-operative medications, complications and management. Additionally, the usage of protamine sulphate as a heparin reversal agent intraoperatively was audited.

RESULTS

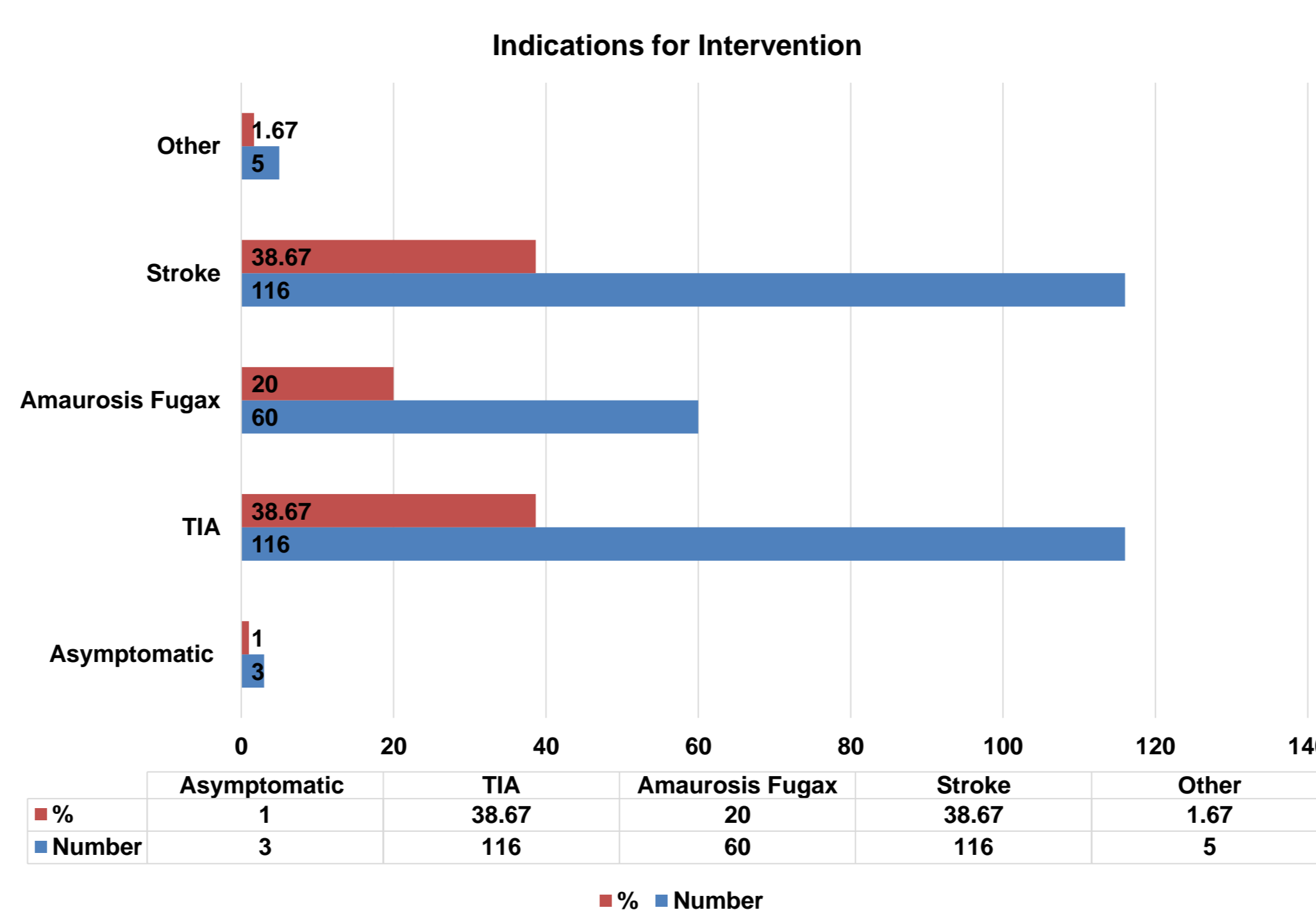
A total number of 300 CEA have been done in the before mentioned period of time, 65% vs 35% of patients were men to women respectively with average age of 71. The indication of surgery was 75.2% for stroke and TIA equally, 20% for Amaurosis Fugax, 1% for asymptomatic severe stenotic lesions and 1.6% for other indications. Pre-operative medications prescribed to patients were as following 58.3%, 31% and 10.6% for single, dual antiplatelets and oral anticoagulation respectively. CEA went uneventful in 95.3% of patients vs 4.47% (N=14) had one of more post-operative complications. Post-operative complications were 2%, 1%, 0.3% for wound haematoma, nerve injury and stroke while 0.3%, 0.3% and 0.67% had internal carotid artery dissection, death or other complication. Urgent re-exploration in theatre was the decision of choice in 83.3% of the complicated cases vs 16.6% were managed conservatively. Protamine sulphate has been used selectively as a heparin reversal agent by some operators but not assessed in this study.



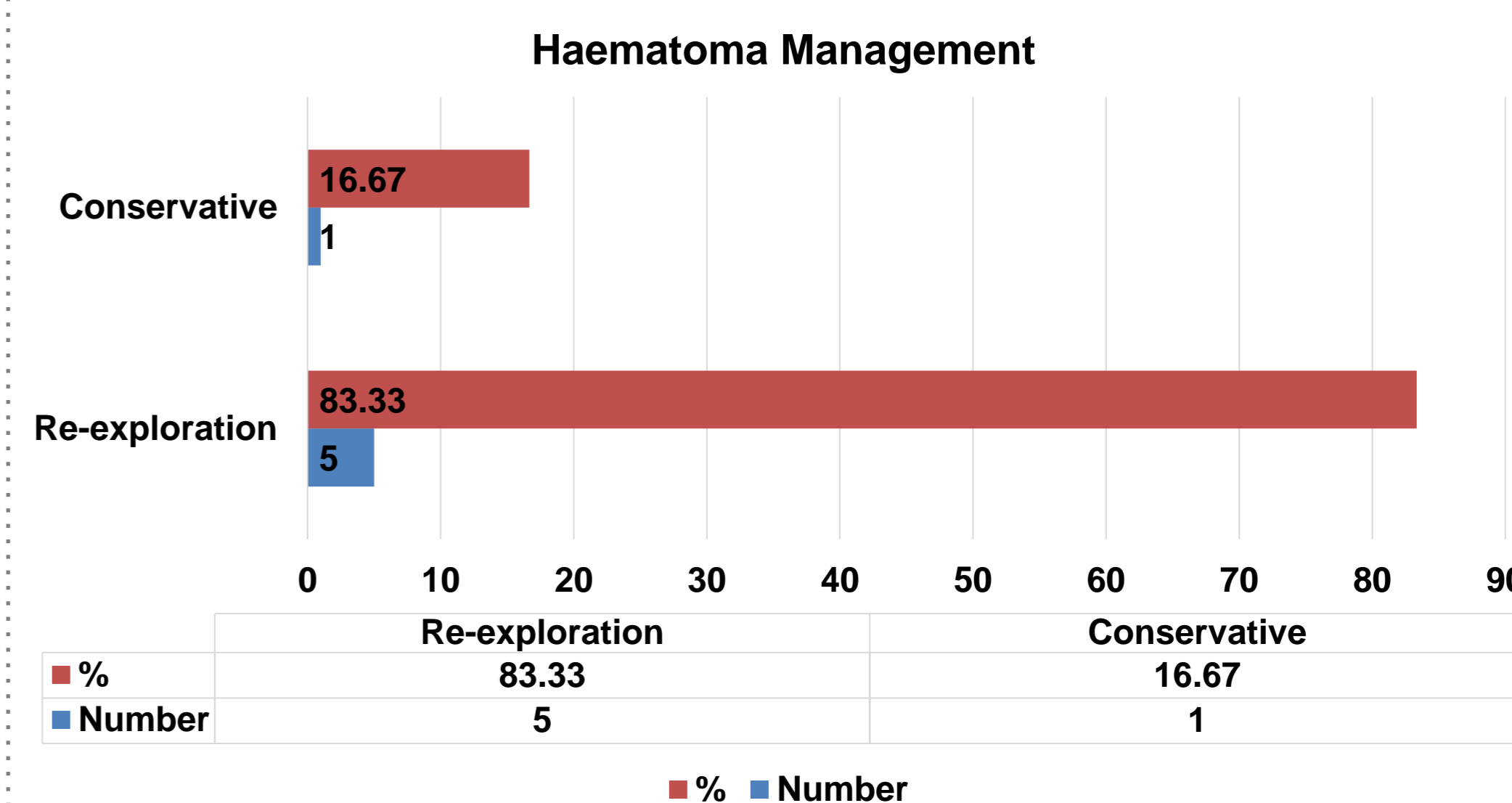
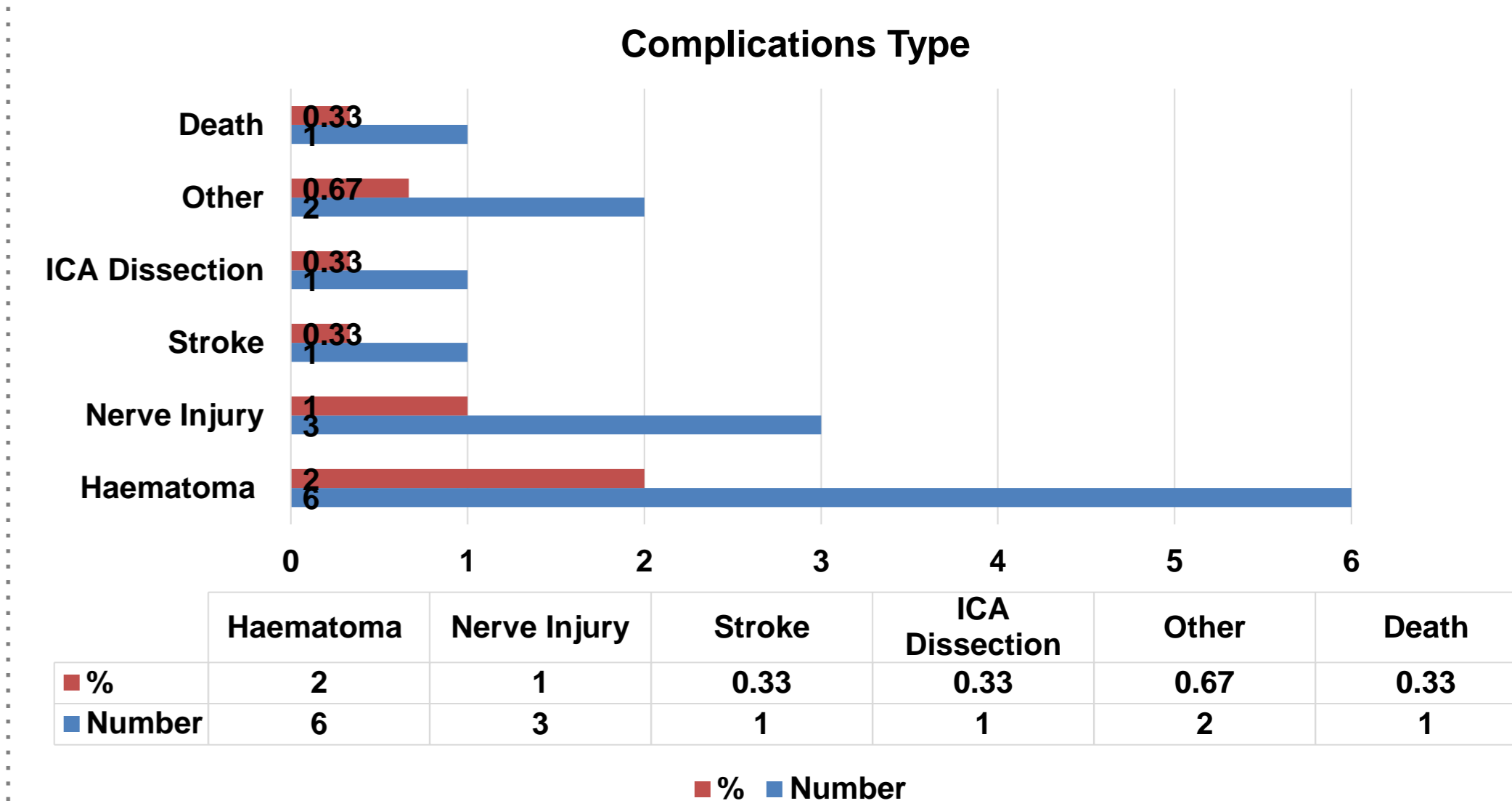
Carotid endarterectomy operations timeline.



Patients age distribution.



Various indications of carotid endarterectomy



CONCLUSIONS

Post-operative complications of CEA could be life threatening or resulting in major disabling stroke. Wound haematoma could happen in 2% of patients undergoing CEA and mostly will require urgent exploration in theatre to avoid airway compromise. Protamine sulphate, drains and on-shelf haemostatic agents could be used selectively in CEA however its value in decreasing the incidence of post-operative wound haematoma was not assessed in this study.

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