Blood loss and transfusion requirements in myomectomy patients at Mater Dei Hospital Malta

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Introduction: Myomectomy is the surgical removal of uterine leiomyomas, benign tumors of myometrial smooth muscle. This procedure can also be done laparoscopically, with studies suggesting the benefits of lower postoperative pain and shorter recovery time in comparison with laparotomy.[2][3] Blood loss is one of the main intraoperative complications of myomectomies.

Aim: Assessment of blood loss, transfusion requirements and length of hospital stay after myomectomies performed at Mater Dei Hospital

Methodology: This retrospective clinical audit sets out to compare pre- and post-operative haemoglobin and haematocrit levels and record any post-operative transfusion requirements in patients undergoing elective myomectomy in Mater Dei Hospital between October 2010 and May 2013. Analysis of mean length of stay with abdominal myomectomies and comparison with established studies was also done[5]

Standard source used: It is a well known fact that intraoperative blood loss affects surgical outcome. Blood loss is one of the main intraoperative complications of myomectomies, in fact several studies suggest different techniques that might minimize this loss, namely misoprostol, vasopressin (and analogues), bupivacaine + epinephrine, tranexamic acid, and intraoperative peri-cervical tourniquet. [4] Length of stay was compared to a study by Advincula AP et. Al (2007) that was carried out in University of Michigan Medical Center. This quoted mean length of stay of laparotomy-approach myomectomy patients to be 3.62 +/- 1.50 days [90% CR 3.00-8.00 days]).

Results: Out of 56 patients (mean age: 35), 50 patients underwent elective myomectomy via laparotomy, 4 patients underwent laparoscopic myomectomy and 2 patients underwent laparoscopic myomectomy which had to be converted to open myomectomy. The mean reduction in haemoglobin levels in all the patients was 1.87g/dL (SD 1.32g/dL) which was also associated with a mean 5.37% (SD 3.82) reduction in haematocrit from the pre-op to the post-op period. The mean length of stay was 4.61 days. In patients with a recorded hospital stay longer than the mean length of stay, the reduction in haemoglobin and haematocrit was slightly higher but was not statistically significant unless a red cell concentrate transfusion was required (2 patients).

Conclusion: The higher the blood loss the longer the hospital stay, especially if transfusion is required. The mean reduction in haemoglobin level during myomectomy operations is less than 2g/dL, with only two (3.57%) needing a blood transfusion. Length of stay (4.61 days) was higher than that cited in University of Michigan Medical Center (3.62days) by Advincula et.al (2007).
Recommendations:
- Good pre-operative evaluation of haemoglobin is being carried out in all patients. This, supplemented with good surgical technique, has resulted in low transfusion requirements. (3.57% of patients)
- Pre-operative Hb, a known mean Hb reduction of 1.87g/dL as well as intraoperative bleeding observations can help with early identification of patients at risk of requiring a transfusion. This can lead to shorter hospital stays.
- Preoperative intravenous iron or oral iron could be started 2 to 3 months in advance to build up the haemoglobin pre-operatively.
- Preoperative reduction of size and vascularity of a fibroid uterus using subcutaneous LHRH analogue 3 months before the procedure can help reduce blood loss.