Mini gastric bypass: Unanswered questions

Dear Editor,

Scientific community had its share of controversies in the past, and many bruised individuals ultimately proved their mettle through sheer brilliance of their concept or work. Although compelling arguments have been made for acceptance by national associations by Mahawar et al.,[1] many unanswered questions still remain.

The mini gastric bypass (MGB) surgery started by Dr. Rutledge[2] in 1997 became controversial as many patients were re-operated[3] in adjacent referral centres for reflux, bile gastritis, mal-nourishment and intractable ulcers. This not only highlighted the low follow-up rate but also the under-reported low reflux rate in the original study.

MGB remains a loop gastrojejunostomy, similar to Mason’s loop gastric bypass or Billroth II, but attempts are made to distance MGB from them, based on the hypothesis that a long and narrow gastric tube will not result in bile reflux and associated carcinoma risk.

Unfortunately, even 20 years later, none of the published studies were designed to assess reduced reflux/neoplasm potential as an end point after MGB.

In a recent study by Chevallier et al.,[4] they have mentioned that Barrett’s oesophagus and gastro-oesophageal reflux disease are contraindications for MGB, while most continue to recommend MGB for reflux disease. In the same study, seven post-MGB biliary reflux patients were converted to roux en Y gastric bypass (RyGBP) at ~2 years with spectacular effect on biliary reflux while patients continued to maintain their weight. Although the author(s) stated that bile was present in stomach and not in the oesophagus, they have also reported oesophageal foveolar hyperplasia (sign of biliary reflux) in 17.1%. This high percentage of histopathological changes seen on selectively endoscoped patients (17/36) as early as 2 years after MGB requires further and continued investigation as reflux-related damage may remain asymptomatic in majority of patients. Kular et al.[5] have reported bile reflux in only 2% (n = 18) though endoscopy was done in symptomatic patients only. Thus, no attempt has been made to identify post-MGB asymptomatic bile reflux. Even Mahawar et al.[6] have mentioned that biliary reflux will lead to a higher incidence of histological gastritis, which may not always translate into adverse symptomatic outcome.

In a recent randomised control trial comparing Billroth II with RyGBP, Csendes et al.[7] found significant histological variation, at mean 15.5 years follow-up, in oesophagus (50%:10%), stomach (80%:0%) and Barrett’s oesophagus (25%:3%).

MacDonald and Owen.[8] have reported 3 fold increase in risk of proximal gastric pouch cancer after Billroth II surgery. In MGB studies, apparent comparisons are drawn with RyGBP while Houghton et al.[9] have found RyGBP as the most effective anti-reflux procedure resulting in regression of short- and long-segment Barrett’s oesophagus.

The main concern in oesophagogastric neoplasms after bariatric procedures is the delay in diagnosis because the symptoms may be attributed to the effects of surgery, requiring long-term follow-up, with periodic endoscopic surveillance.[10] However, most of the MGB studies have reported extremely small post-operative endoscopic rates of <10% primarily done in symptomatic patients with intent to diagnose and not for surveillance.[4]

Although no studies have reported post-MGB protein requirement, it can be safely assumed that it will be higher than RyGBP, which is reportedly 1.1 g/kg ideal body weight.[11]

MGB studies have reported that patient experienced higher frequency of oil stool passage and diarrhoea, related to the short bowel effect[12] and higher mal-absorptive component than RyGBP.[4]

Indians consume 50–60 g proteins daily and most are derived from cereals, which are poor source of proteins (10%).[13] If 42% of meat-eating Caucasian population have low protein levels 1 year after MGB,[14] protein deficiency in cereal-eating Indian patients is expected to be higher. Kular et al.[5] have reported protein deficiency in only 2 of 1054 patients.

Informed consent remains a major issue even with surgeons performing MGB; it is not clear whether risk (theoretical)
of cancer should be informed to young patients and RyGBP to be offered as an option.\textsuperscript{[4]}

It raises two issues – first, was the patient/family informed of probable cancer risk 20–25 years later and the second is acceptance of cancer risk associated with MGB by surgeons doing it. Ethical issue of ill-informed patient undergoing a surgery with potential risk of gastric stump/oesophageal carcinoma is too serious and cannot be wished away.

Considering lack of scientific authentication of the premise/hypothesis that vertical gastric transection will avoid reflux and related cancer potential, MGB should be considered an experimental/evolving procedure. Better organised studies are required before surgery can be offered in clinical practice.

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**REFERENCES**


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