

A History of Colorectal Surgery

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THE HISTORY of colorectal surgery is a fascinating journey of continual innovation that spans regions globally and emphasises the significant advances made in the field. According to documentation dating back as far as the Egyptian era, ailments and more serious illnesses of the colon were treated by the likes of ointments, enemas, and suppositories. 'Surgery' in the form of cauterisation, sewing, and binding was performed by the Greeks, while the Romans were encouraged to use knives and execute surgery upon locating fistulas.¹ Colorectal diseases requiring surgical treatment include inflammatory bowel disease, bowel cancer, and a host of other commonly diagnosed anorectal conditions; these are often treatable and screening programmes have helped to ensure survival rates in this age are on the rise.²

Sir William Arbuthnot Lane was initially mocked for having completed total colectomies on patients with chronic constipation before the decision to do so was adopted as common practice for elective and emergency surgery. Sir William is included in the class of pioneering surgeons who were carrying out open colonic resections in the early 20th century, and are bestowed with the recognition for this leading to the expansion of open surgery for the colon and rectum throughout the century.³

The years that brought the 20th century to a close and those that subsequently followed saw a steady shift towards minimally invasive colorectal surgery for the treatment of prominent colorectal complications.^{4,5} The uptake of laparoscopy in colorectal surgery increased as an alternative method to open surgery,⁴ despite disinclination to adopt the technique as a result of its oncological safety and efficacy coming into question. The

evidence to support its advantages over open surgery was not strong, and initial suggestions of associated tumour growth-stimulating effects led to the method being rarely performed.³ It is now understood that laparoscopic surgery may be equal, or superior, to the open operative approach in colon and rectal surgery,⁵ with advantages including reduced intraoperative blood loss, length of incision, and length of hospital stay.⁴ The use of laparoscopy for the insertion of laparoscopic ports requires less significant incisions and inflicts less trauma upon the abdominal wall of the patient, as well as causing a lesser inflammatory response.³ In addition, time for recovery and postoperative pain are reduced.⁶

The method used for laparoscopic surgery was thought to be limited in some ways due to technical parameters of the equipment, and so it was decided that further innovation was needed in the field.⁶ Since the adoption of laparoscopy

into surgical clinics, another advancement has been made in the field of colorectal surgery: the last two decades have seen the development and clinical incorporation of robotic devices to aid surgical procedures.^{4,7} Robot-assisted surgery has performed successfully in place of the restrictions posed by laparoscopy. At first, this was carried out with surgeon-controlled, three-dimensional imaging, allowing for increased dexterity, and a computer interface to deliver greater accuracy in movement.^{6,8}

Now acknowledged as an essential method, robot-assisted surgery provides a clearer visual aid to ease further dissection, particularly when the surgeon is faced with challenging procedures for both benign and malignant diseases.⁶ Despite disadvantages associated with robotic surgery, namely high costs, the many advantages laparoscopy conferred over open surgery can be met if not exceeded with the assistance of robotic devices and may outweigh the unfavourable aspects of expense.⁷

In the management of benign and malignant colorectal complications, innovative procedures for surgery have continued to arise and become common practice in the operating theatre. Achieving minimal invasiveness and trauma without compromising postsurgical outcome continues to be the optimal goal.

References

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