# Atlas of Laparoscopic Gastrectomy for Gastric Cancer

High Resolution Image for New Surgical Technique

Chang-Ming Huang Chao-Hui Zheng Ping Li Jian-Wei Xie





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This book commemorates the 10th anniversary of performing laparoscopic radical gastrectomies for gastric cancer and a total of over 5000 such cases treated at the Department of Gastric Surgery, Fujian Medical University Union Hospital (Fujian, China).



*Our team: Department of Gastric Surgery, Fujian Medical University Union Hospital, China* 

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### Preface

Laparoscopic technology has achieved satisfactory clinical effects in the treatment of early gastric cancer and has also been applied to the treatment of locally advanced gastric cancer. The success of laparoscopic radical gastrectomy for gastric cancer not only requires proficient surgical techniques but also high-level, standardized, and programmed surgical procedures. Accordingly, we decided to publish this atlas, which is based on *Laparoscopic Gastrectomy for Gastric Cancer: Surgical Technique and Lymphadenectomy*, published in 2015. All ultra-high-definition surgical images in the book were collected by the Highlights Storz IMAGE1 S<sup>TM</sup> Platform and are of an excellent quality that enhances the descriptions.

In this book, we introduce procedures and precautions associated with lymph node dissection of laparoscopic radical gastrectomy for gastric cancer, ranging from preoperative preparation to regional lymph node dissection, and digestive tract reconstruction. The content is pragmatic and comprehensive and relevant to clinical practical applications.

As the first specialized department in a large-scale Chinese general hospital devoted to the treatment of gastric cancer, the Department of Gastric Surgery, Fujian Medical University Union Hospital, performs more than 1000 gastric cancer surgeries each year. Since the first case of laparoscopic radical gastrectomy in May 6, 2007, ten years of unremitting efforts have enabled our department to become one of the most respected centers for laparoscopic gastric cancer surgery in the world.

During the past ten years, we have continuously evaluated the anatomic characteristics and variation of gastric vessels, which has laid solid foundations for the development of laparoscopic radical gastrectomy. We also optimized lymph node dissection, especially "Huang's three-step maneuver" in laparoscopic spleen-preserving splenic hilar lymphadenectomy, which simplifies the procedure, reduces its difficulty, and promotes popularization of the technique. We have regularly modified laparoscopic reconstruction of the digestive tract after radical gastrectomy and improved the safety of distal gastrectomy and total gastrectomy by first proposing the modified delta-shaped gastroduodenostomy technique, then later isoperistaltic later-cut Roux-en-Y anastomosis. At the same time, we have furthered high-level evidence-based medicine by conducting a number of multicenter prospective clinical trials associated with laparoscopic gastric cancer surgery. These included acting as principal investigator in the CLASS-04 test, and as the unit with the most effective cases in the CLASS-01 test and the CLASS-02 test.

Additionally, more than ten single-center prospective clinical trials are currently in progress.

Based on the spirit of an ancient Chinese poem from the Tang Dynasty which states that "ten years' hard working molds a sword," we have taken our valuable experience of laparoscopic gastric cancer surgery and compiled it into a book. We hope that it will inspire our colleagues who are committed to gastric cancer surgery and aspire to work together to promote the development of minimally invasive laparoscopic surgery for gastric cancer. This book is dedicated to the 10th anniversary of laparoscopic radical gastrectomies for gastric cancer and a total of over 5000 such cases at the Department of Gastric Surgery, Fujian Medical University Union Hospital.

The editors of this book are doctors at the clinical front line of this department. Besides their heavy clinical workload, they have sacrificed much of their precious spare time to help publish this book, for which we are immensely grateful. We would also like to express our appreciation to the related departments of People's Medical Publishing House and Springer for their encouragement and support. Meanwhile, we hope that all experts, fellows, and readers will feel free to enlighten us with suggestions to further improve this book and its later editions; together, we can make it extraordinary.

Fuzhou, China December 2017 Chang-Ming Huang

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## Points for Attention Before Performing Laparoscopic Lymph Node Dissection for Gastric Cancer

#### 1.1 Instrument Preparation

Routine laparoscopy equipment includes softacting gastric forceps, soft-acting intestinal forceps, aspirators, dissection forceps, scissors, needle holders, hemolock release clamps, vascular clamps, absorbable clip appliers, titanium clip appliers, small gauzes, 5 and 12 mm trocars, and ultrasonic scalpels (Figs. 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, and 1.12).



Fig. 1.1 Soft-acting gastric forceps



**Fig. 1.2** Soft-acting intestinal forceps

Fig. 1.3 Aspirator







Fig. 1.5 Scissors

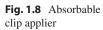


Fig. 1.6 Needle holder



Fig. 1.7 Hemolock release clamp

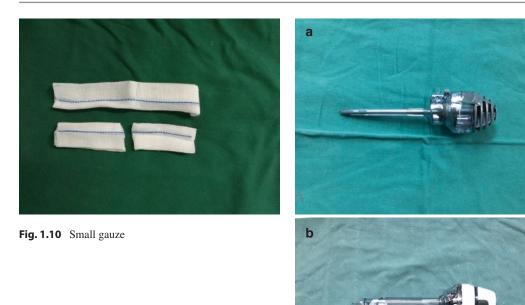






**Fig. 1.9** Titanium clip applier





**Fig. 1.11** (a) 5 mm trocar. (b) 12 mm trocar



Fig. 1.12 Ultrasonic scalpel