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## Preface

Laparoscopy is undoubtedly a “revolution” in modern surgery. It has rapidly become the ideal solution for many minor and less major abdominal surgical interventions (appendectomy, cholecystectomy, etc...). In more recent times, it has also proved very effective for major surgery (colectomy, splenectomy, adrenalectomy, nephrectomy, etc.), and, in most cases, laparoscopy seems to be the most appropriate treatment.

Within the sphere of major surgery which can be confronted with laparoscopy, adrenalectomy is undoubtedly of the utmost importance, from the historical, technical and clinical point of view. In fact, the first laparoscopic adrenalectomy was carried out by Hyshygara and Gagner as long ago as 1992, well before other major surgical interventions. The demonstration of its feasibility and reproducibility has cleared the way for still more complex procedures. Currently it is the “Gold Standard” therapy for the majority of adrenal gland tumors and is therefore considered to be one of the most effective laparoscopic procedures.

This statement is based on the results of multiple feasibility studies and comparisons with the corresponding “open” procedure. In fact, all doubts have now been eliminated over the applicability of the laparoscopy on hypersecreting adrenal tumors, with particular reference to the pheochromocytoma, on large masses and secondary oncological pathology. Some perplexities remain over the use of laparoscopy on primary adrenal carcinoma, but when the feasibility criteria are respected, many authors seem to prefer laparoscopy.

This text aims to describe the main techniques for adrenal gland surgery—“open” surgery and laparoscopy. The beginning of the report deals with the basic physiological anatomy, clinical diagnosis and preoperative medication—the prerequisites needed to aid the description of the surgery required for such a complex pathology. Then a structured and comprehensive examination of the main types of surgical treatment used for these tumors is conducted, starting with the video-assisted methods, both in Gagner’s classic position, on the side, and the more recent posterior techniques. Particular emphasis is given to each procedure, indications and contraindications, as well as the most frequent complications, giving rise to the suggestion that the recommendations, which arise from a high level of evidence, should be followed closely while addressing adrenal surgery.

The surgical instruments and technologies necessary to carry out a laparoscopy, on the adrenal gland, are mentioned. In fact, this type of surgery demands, not only, a high level of technical expertise, but also a wide range of sophisticated equipment, indispensable in performing such advanced procedures as those described.

Finally, adrenal gland “open” surgery is dealt with, focusing on the more relevant indications and contraindications.

The text is structured on the basis of the principles of “Best practice”, in accordance with the guidelines in “Evidence based medicine”, and is therefore equipped with concrete information which can be rapidly transferred into clinical practice and daily techniques.

To conclude this extensive analysis, the more modern attempts at surgical treatment for the adrenal pathology are described. This deals with the latest developments in the industry, like robotic surgery, and the technical skills of experienced operators, as in the case of the partial, bilateral adrenalectomy and of the multi-organ resections.

The hope is that the reader may benefit from this text, acquiring a complete and balanced knowledge of this complex subject matter, and using it as an instrument of reference. The Authors know that, in the future, the rapid evolution of ideas and methods could modify some of the concepts expressed here. Nevertheless, they trust that the reader’s critical and attentive eye will stimulate the effort to maintain this book, and its contents, fresh and up-to-date with further revisions.

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