Conversion to an open approach during video-laparocholecystectomy

The conversions during video-laparocholecystectomy are due to two reasons: first, the anatomic variations and the intraoperative complications, that are absolutely unpredictable and accidental; second, the acute cholecystitis, with clinical (right upper abdominal quadrant pain with positive Murphy’s sign and fever) and instrumental evidence (US signs of increase of the thickness of the gallbladder wall, presence of pericholecystic fluid material),[1] male gender,[2] hepatic cirrhosis,[3] portal hypertension and obesity, because of the greater adiposity of the hepato-duodenal ligament and so a greater difficulty in the recognition of the structures in the Calot’s triangle.[4,5]

All this data are evident in the preoperative phase and are in part emendable. An important role is played by the first surgeon’s formation, ability and care, because the management of an intraoperative accident, the recognition of an anatomic anomaly or the execution of a difficult cholecystectomy can be evaluated and treated in different way, sometimes even without conversion to an open procedure.[6]

The development of a model that can show, surely, in the preoperative phase, the exact probability of conversion of a video-laparocholecystectomy to an open approach, is not a practicable idea, because there are a great number of variables, that are not all predictable and manageable; instead, it is right to maintain that must be considered some factors in the presence of which the generic probability of conversion can increase; this must be done with the aim of a good and precise conversation with the patient.

In presence of preoperative predictive factors of difficulty of the laparoscopic cholecystectomy, the surgeon’s experience will give the probability of the risk of conversion.

In conclusion we can propose two considerations: the first of ethical order and the second technical.

The decision of converting the intervention to an open traditional approach must be never considered a defeat by the surgeon. The laparoscopic approach is only a technical modality of executing the same intervention.

The decision of changing approach in order to improve the surgical performance does not damage the therapeutic program and has the aim to give the patient the best treatment. From a technical point of view, we recommend the partially antegrade laparoscopic cholecystectomy, that we execute as a routine.

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Prediction of unsuccessful laparoscopic cholecystectomy

The quest for predicting the probability of conversion of laparoscopic cholecystectomy in unselected groups of patients with calculous gall bladder disease has been extensive. The outcome in the present study by Tayeb et al[1] lends support to acquired knowledge, that the major and independent risk factors for conversion are acute cholecystitis and advanced age.

Assessment of risk factors/constructing prognostic indices is merely an adjunct to qualified surgical judgment. Thus, Tayeb et al[1] prudently point out that conversion should be considered early if difficulties are encountered intraoperatively, and that open surgery should be scheduled in patients with additive risk factors.

Consequently, the prospect of preoperatively predicting conversion is important, in order to ‘a priori’ schedule open surgery or take appropriate measures if laparoscopy is scheduled. Intraoperative findings (adhesions, obscure anatomy) are left
to the surgeon’s experience and when dealt with qualified judgment and are less important predictors.\(^2\) Male gender is frequently reported to be a risk factor for conversion,\(^2\),\(^3\),\(^4\) a finding contradicted in the present study (23.3% males)\(^1\) and elsewhere.\(^5\)

Without concomitant cholecystitis, gall bladder wall thickness alone cannot be expected to be a strong predictor of conversion. Although associated with a conversion rate of 58% in this study, it was weak compared to the actual signs of inflammation (oedematous wall and pericholecystic fluid), which were associated with a conversion rate of about 90%. These findings highlight cholecystitis as a major predictor for conversion, but unfortunately, patients with acute cholecystitis have been studied less extensively, and results are inconsistent, with a potentially low impact on management.\(^2\),\(^3\),\(^1\),\(^3\) Thus, this patient category deserves to be investigated further in prospective studies, in order to construct a refined prognostic index, and to improve the accuracy of the overall prediction of conversion of laparoscopic cholecystectomy.

Reportedly, superimposed bacterial infection (indicated by high C-reactive protein and leucocyte count, duration of inflammation, and positive bile cultures), which is known to increase with age, might be the most important cause of conversion in patients with acute cholecystitis.\(^2\),\(^3\),\(^4\),\(^5\),\(^6\),\(^7\)

In clinical practice, the important issue would be to define the probability of an event in terms of (arbitrary) ‘high-risk’ (>80%) or ‘low-risk’ (<10-15%). In this context, those figures for risk of conversion should lead to open and laparoscopic approach, respectively. An intermediate probability of conversion would imply that the best available expertise is engaged when laparoscopy is scheduled, and that it hardly matters whether the risk of conversion is estimated to 50% or 50%.

Moreover, in order to proceed by improving/refining models for prediction of conversion, discrete variables (for example ultrasonographic and physical findings) are less reliable and reproducible, and “cut-off” points for continuous variables might be useful but blunt, suggesting that the construction of prognostic indices from continuous variables should be investigated further, especially in patients with acute cholecystitis.

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