Developing predictive risk factor models that enable the identification of patients at a higher risk for conversion of laparoscopic cholecystectomy to open surgery has been very difficult. Risk factors must be correlated with operative findings that can lead to the complex decision of converting a cholecystectomy.

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Conflict of interest

The authors declare that there is no conflict of interest.

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Response to Sánchez-Luque regarding ''Preoperative suspicion of difficult laparoscopic cholecystectomy''

Respuesta a C.B. Sánchez-Luque «Sospecha preoperatoria de colecistectomía laparoscópica difícil»

Dear Editors,

We read with great interest the letter written by C.B. Sánchez-Luque, referring to our article recently published in the *Revista de Gastroenterología de México*, volume 86.[1]

As the author correctly asserts,[2] acute cholecystitis is recognized in different observational studies as a predictive factor for complications during laparoscopic cholecystectomy, for a ''challenging'' surgery, and for the conversion to open surgery.[3]

Sánchez-Luque also states that open cholecystectomy could be a safer treatment alternative in those cases. That affirmation is a controversial topic that has been discussed at current international forums, given that training strategies in general surgery residency programs have significantly changed over the years. With the advent of minimally invasive surgery, presently considered the gold standard, the number of open cholecystectomies that a general surgery resident carries out in an academic program is limited, and in some cases, does not reach even one-tenth of the total number of laparoscopic procedures performed by the time of graduation.[4,5] Moreover, with the introduction of new technologies, such as robotic surgery, we have found reports on training programs, in which residents graduate having performed more robotic cholecystectomies than open procedures.[6] Even though this may not represent the current situation experienced in Latin American countries, and may speak more of a ''first world'' problem, it is only a matter of time before the new generations of Mexican surgeons will find themselves in the same situation, as hospital infrastructure continues to develop.

The fact that the new generations of surgeons develop more advanced skills in minimally invasive surgery during their training has resulted in the questioning of whether the most adequate management, when confronting a difficult cholecystectomy, is necessarily conversion to open surgery, given that at present, the performance of a bailout procedure, such as subtotal fenestrating or reconstituting cholecystectomy, has been shown to maintain the advantages of minimally invasive surgery, with similar results in terms of complication rates, as well as better long-term quality of life, compared with conversion to open surgery, in cases of cholecystitis that are technically difficult.[7,8] Nevertheless, the currently available results come from retrospective studies, opening a door of opportunity to conduct randomized prospective studies that will enable the advantages of one technique over the other to be defined.[9]

Our group is presently working on validating the described risk factors for conversion,[1] in a more contemporaneous cohort, attempting to identify whether those same factors can predict the need to opt for a bailout procedure. It would also be interesting to evaluate whether the

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causes for selecting one of those procedures are similar to the causes that lead to conversion to open surgery. However, in our experience, the most advantageous scenario for conversion is that of intraoperative bleeding, in which open surgery provides a clear advantage for obtaining control. In addition, studies could be designed to validate the scoring systems mentioned by C.B. Sánchez-Luque in his letter, in the context of difficult cholecystectomy, as well as determining whether those scores could be applied to predict complicated surgeries, and not just conversion, which in many centers is now considered an extraordinary event, occurring in less than 1% of cases.

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