Editorial

Throughout this century the technique of performing cholecystectomy improved and has been brought to a high degree of technical perfection. Cholecystectomy became a ‘golden standard’ treatment for cholecystolithiasis. Improvement of surgical technique, supported by the progress and developments in the pre-, intra- and postoperative care, produced better results, and a reduction of the morbidity and mortality rate of this operation. The reported morbidity of 7% and the mortality rate of 0.3% show that cholecystectomy is a safe procedure. One may not expect that perfection in the results can be achieved by further improvement in surgical technique or progress in the pre-, intra- and postoperative care. These developments will not significantly influence the rate of complications, which is already very low. The majority of the complications and inconvenience of cholecystectomy remains evidently related to the laparotomy and not to the actual removal of the diseased gallbladder. Thus, when striving to achieve further improvement of the results in treatment of biliary lithiasis the only way left appears to be the search for a ‘noninvasive’ or ‘less invasive’ approach than open surgery.

In our experience 60% of the postoperative complications are, directly or indirectly, related to the operation wound, pain and immobilization caused predominantly by discomfort, and the necessary postoperative regime. It seems to be obvious that the future therapeutic alternative for treatment of cholecystolithiasis should fulfill certain criteria, of which the basic one is noninvasive-ness or being less invasive than open surgery. Such a therapeutic alternative should be a safe one, even in less experienced hands, have a high success rate, be easy to perform, and be generally applicable. Due to its non-invasiveness it should induce minimal, or rather no discomfort at all to the patient. There is no doubt that the end result of the treatment should be long-standing, and the new method should be cost-efficient.

In the past decade different therapeutic alternatives for the treatment of cholecystolithiasis have been introduced: the cholecystostomy (percutaneous one), chemical ablation of the gallbladder, cholecystostomy with stone extraction, or lithotripsy combined with dissolution using MTBE (methyl tert butyl ether), extracorporeal shock wave lithotripsy (ESWL) combined with oral dissolution therapy, and finally laparoscopic cholecystectomy. The percutaneous cholecystostomy remains the treatment for high risk patients with complicated cholecystolithiasis. Thus it is not an alternative for elective surgery. Chemical ablation of the gallbladder using a sclerosant, at present must be regarded as an experimental treatment with, in the future, possibly limited application. Percutaneous stone lithotripsy, combined with chemical dissolution with MTBE following lithotripsy (percutaneous or ESWL) has been used with success in patients with cholecystolithiasis. Use of MTBE may induce complications, as already reported by different investigations. Although the method seems to be effective, the outcome of long-term follow-up is not available yet and the method remains restricted to selected cases within experimental setup.

The nonsurgical treatment, such as biliary lithotripsy and dissolution therapy introduced by Sauerbuch in 1986 in Munich, has attracted a lot of attention due to its noninvasiveness and promising results. Certainly it does fulfill a number of the above-mentioned criteria a therapeutic
alternative should fulfill, and has thus gained a certain popularity. It is a noninvasive method relatively easy to perform and well accepted by the patient. But when evaluating the results critically it fails to fulfill most of the expectations. It is applicable only in 10-15% of patients. Even in highly experienced centers the success rate for patients with solitary stones smaller than 3 cm in diameter appears to be 80% after 1 year of therapy. Furthermore, in patients in whom stone fragmentation and clearance has been achieved, recurrence of the stone is high (10%/year) in the first 2 years of follow-up, with expected recurrence rate of 50% after 5 years, despite the oral bile salt therapy. This justifies some doubts about the long-standing and result of treatment. The necessity for long-term use of dissolution therapy means that the total cost of the treatment exceeds even the cost of the surgical therapy.

Our experience with ESWL supports the results of leading centers but our results are inferior. In our opinion the method fails to fulfill the criterion of being generally applicable for the patients suffering from cholecystolithiasis.

The relevant and rapid improvement of equipment for operative laparoscopy, and the development of new laparoscopy instrumentation techniques within the last 5 years finally enabled the introduction of laparoscopic cholecystectomy. This new approach combines the benefits of the well-established treatment and, as the procedure requires minimal access, it offers the advantage of being ‘less invasive’.

The laparoscopic cholecystectomy was first performed in 1987 by Mouret in Lyon. The method was shortly afterwards standardized by Perissat and Dubois, Berci, Cuschieri, Reddick and others. Current experience with this procedure revealed in these proceedings implies that laparoscopic cholecystectomy fulfills the majority of the criteria and comes up to the expectations that a new therapeutic alternative should achieve. It is well accepted by the patients, it has a long-standing end result as it is a cholecystectomy, and thus, as we have learned through this century, it leads to the cure of cholecystolithiasis.

The patients obviously benefit from the minimal invasiveness, and the procedure is certainly cost-efficient. In the experience reviewed these proceedings, it can be applied in over 90% of patients with symptomatic cholecystolithiasis and in the hands of some of the experts even 97% of patients can benefit from this treatment.

Based on the results reported in this issue, cholecystectomy in its evolution turned to laparoscopic cholecystectomy and thus achieved probably the final stage of technical perfection. This resulted in a further reduction of complication rate and opened new perspectives for the development of innovative surgical technique and improvement of currently available therapeutic modalities.

To avoid potential dangers and drawbacks related to a too hasty introduction of the method, which could jeopardize this promising new development, certain precautions should be taken when starting a program on laparoscopic surgery. (1) The exact indications for laparoscopic cholecystectomy should be settled and followed exactly. (2) Correct choice of the equipment is undoubtedly of importance. (3) The treatment protocol should be standardized and the method used routinely. (4) Use of a tight follow-up protocol for evaluation of the procedure and its final result is essential and helpful in anticipation of complications.
In addition, the specific features of laparoscopic surgery make the creation of a teaching program in laparoscopic surgery (cholecystectomy) a must. And, finally, establishing multicenter cooperation to build up experience using standard treatment protocols is recommended. The experience presented in the proceedings indicates that if the above-mentioned measures are kept in mind, this new approach will, in the future, become not only a viable supplement to the surgical techniques, but will also eventually become a substitute for conventional cholecystectomy in the majority of patients.

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