Complications After Open and Laparoscopic Cholecystectomy in Norway

A. Ferden 1, O. Mjåland 2, T. Buanes 2. 1 Surgical Department, Central Hospital of Akershus, Oslo, Norway; 2 Surgical Department, Ullevaal Hospital, Oslo, Norway

The benefit of routine intraoperative cholangiography is debated in Norway. The main argument for peroperative cholangiography has been to visualize bile duct anatomy, and hence avoid CBD injuries. If this is important, the Norwegian national registry would be expected to reveal a frequency of CBD-injuries above other countries.

Methods: A national registry was established in April 1993, including all patients undergoing cholecystectomy. Most Norwegian hospitals had by then practiced the laparoscopic technique for some time, and the period does not cover the first part of the learning curve. Also patients operated with the open technique were included. Indications, preoperative investigation and health condition together with per- and postoperative complications were recorded.

Results: During the first nine months 906 patients were registered, 705 operated laparoscopically, 201 openly (22%). Only in nine of the laparoscopic patients (1.2%) peroperative cholangiography was performed. 75 patients in the laparoscopic group (11%) were converted to open technique. Altogether 135 patients underwent an emergency operation due to acute cholecystitis, 58 laparoscopically, 77 openly. Serious complications in the laparoscopic group were two full CBD transections (0.3%), one partial CBD injury (sidehole), five perforations of visceral organs with Verres needle and one sepsis. One patient died from myocardial infarction after laparoscopic cholecystectomy (mortality 0.1%). In the open group, two patients died from myocardial infarction and one from septic shock due to cholangitis (mortality 1.5%). Other complications to open cholecystectomy was one partial CBD injury (sidehole) and four sepsis.

Conclusion: Our main quality problem in surgical treatment of gallstones is the high mortality after open cholecystectomy. The frequency of CBD injuries is similar to other countries.

Comparison of Sequential and Fixed-Sample Designs in a Controlled Clinical Trial with Laparoscopic Versus Conventional Cholecystectomy *

O. Reiersen, P. Kjersgaard, E. Trondsen, A. R. Rosseland, S. Larsen. The Surgical Department of Akershus Central Hospital and Medstat Research Lillestrøm, Norway

The aim of the study was to compare a fixed-sample and a sequential design with regard to study duration, sample size and medical results in a real-life situation.

A randomized study comparing laparoscopic and conventional cholecystectomy was carried out with a fixed sample design parallel to a sequential design. The main variable was duration of postoperative convalescence.

In the fixed-sample trial the necessary number of patients was calculated to be 72. The sequential trial was conclusive after inclusion of 24 patients and reduced the study duration from 43 to 18 weeks. The mean difference in duration of postoperative convalescence between the two surgical methods was 25.8 days in the fixed sample trial and 27.5 days in the sequential trial in favour of laparoscopic cholecystectomy (p < 0.01). Additionally the sequential trial reached the same conclusions as the fixed-sample trial for all the observed variables except for one.

The study indicates that sequential designs should be used more frequently in clinical trials in order to involve the smallest possible number of patients necessary to reach a conclusion.

* Accepted for publication in Scandinavian Journal of Gastroenterology January 1994

Prospective Case Registration of Laparoscopic Cholecystectomy in Denmark

S. Andersen, O. Hart Hansen, P. Funch Jensen, JO Stage, S. Schultz, P. Wara. Danish National Registry of Laparoscopic Cholecystectomy, Department of Surgery, Hillestad Hospital, Hillestad, Denmark

When laparoscopic cholecystectomy was introduced in Denmark in 1991, the Danish National Registry of Laparoscopic Cholecystectomy was established by the Danish Surgical Society. The primary aim was to monitor complications. All patients for laparoscopic cholecystectomy are reported prospectively to the registry. All 53 departments in Denmark currently performing laparoscopic cholecystectomy have agreed to report their cases, and the registry is probably complete. Primarily conventional open procedures are not included.

Data include age, sex, indication for cholecystectomy, previous abdominal surgery, preoperative investigations, duration of surgery, preoperative cholangiography, preoperative complications, reason for conversion, blood transfusion, postoperative course and complications, duration of hospital stay and time to return to work.

In the end of 1993, the registry included data on 3893 patients. 393 (10%) were converted to an open procedure. In 106 (3.7%) the conversion was forced due to a complication. Preoperative cholangiography was used in 21%.

Postoperatively, the course was without complications in 86%. The most frequent complications were cardiac (3%), abdominal complications not requiring laparotomy or endoscopy (4%) (mainly abdominal discomfort), and wound infection (2%). 21/897 (0.54%) sustained a bile duct injury. Six had a lesion of the right hepatic duct, and seven a transaction of the common bile duct. Five had a minor bile leak. Two patients had a complete obstruction due to tenting occurred. One patient developed a stricture, probably due to thermal injury. There were no fatalities among these patients.

Mortality was 0.28% (11/897), all were 72 years or older. Seven died from causes unrelated to the operation, while four had procedure related complications.

Median postoperative stay was two days (interquartile range 1–3, range 0–67), while median time to return to work was 10 days (4–14, 1–165).

HLA-DQ Restricted T-Cell Clones From the Small Intestinal Mucosa of Coeliac Disease Patients Recognize Several Different Gliadin Epitopes

K.E.A. Lundin, L. M. Sollid, D. Anthonsen, O. Norén, E. Thorby, H. Sjöström. Institute of Transplantation Immunology, The National Hospital, Oslo, Norway; Dept. of Medical Biochemistry and Genetics, University of Copenhagen, Denmark

Coeliac disease is precipitated by wheat gliadin. Each wheat cultivar carries approx. 40 different gliadins, classified as α-, β- and γ-gliadins. In most patients, HLA-DQ2 confers the disease susceptibility whereas in those who are DQ2 negative, HLA-DQB is the probable disease susceptibility determinate. We recently found that most gliadin-specific T-cell clones (TCC) from the small intestinal mucosa of coeliac disease patients recognize gliadin when presented by DQ2 or DGB. We now study the gliadin recognition by the TCC with one purified α/β-gliadin and two purified γ-gliadins from the wheat cultivar Kadett and with synthetic peptides from the N-terminal region of α-gliadin.

One TCC recognizes both the α/β-gliadin and the two γ-gliadins from Kadett, another TCC recognizes the α/β-gliadin only, whereas three other TCC only recognize the two γ-gliadins. Further TCC recognize other gliadin fractions which are homogenous with respect to α/β-, γ- or α-γ-gliadins. Some TCC only recognize wheat gliadin, others also proteins from rye. None of the TCC recognize synthetic α-gliadin peptides from the cultivar Scout 66, Kolibri and Cheyenne. Since there are many α/β- or γ-gliadins with minor sequence variations, the epitopes may for some of the TCC still be found in this region.

The results suggest that the T-cell response towards gliadins in coeliac disease is diverse. Thus, the sequence of a large number of different, gliadin-specific T-cells in the small intestinal mucosa may take place and hence be an important feature of the disease immunopathogenesis.

Beneficial Effect of Dietary Pectin on the Recovery of Mice with Griseofulvin-Induced Porphyria

D. Adjarov 1, 2, A. Ivanova 1, M. Kerimova 2, N. Donchev 1, B. Borov 2, E. Nadvodenska 2. 1 Clinic of Gastroenterology, Higher Medical Institute, Sofia, Bulgaria; 2 Center of Hygiene, Medical Center, Sofia, Bulgaria

The study was aimed to establish whether dietary pectin could exert a beneficial effect in already induced experimental hepatic porphyria, as an interference of pectin with enterohepatic circulation of protoporphyrin could be expected. Thirty-two male Balb/C mice were fed with standard diet, containing 1% griseofulvin for 7 days. In a group of 8 animals killed immediately after cessation of the griseofulvin feeding, excessive amounts of protoporphyrin in the liver (a 450-fold increase) and in the stools (a 34-fold increase) were found. The other animals were divided by 8 into three groups, each fed for another 7 days with following diets: standard food; standard food, containing 4% high methyl esterification pectin; standard food, containing 4% low methyl esterification pectin.

A beneficial effect of pectin enriched diet was observed. The withdrawal of griseofulvin for 7 days led to a 2.3-fold increase of hepatic protoporphyrin in mice fed standard diet, only but a 4.5-fold reduction was established in the animals fed pectin diet. Parallel changes in fecal protoporphyrin were registered, which was inconsistent with the assumption for interference of dietary