IS THE AGE OF PATIENTS WITH IATROGENIC BILE DUCT INJURIES INCREASING?

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Resection of the gall-bladder is still the most common surgical procedure performed at general surgery departments. The laparoscopic method used in the majority of cases offers considerable benefits but at the same time is associated with an increased rate of bile duct complications. So far, a slim female aged 25-50 years was a typical patient with a iatrogenic bile duct injury. The aim of the study was to identify the age of patients with iatrogenic bile duct injuries as well as the clinical course observed in recent years.

Material and methods. Gender and age structure of patients admitted to the Department of General, Transplant and Liver Surgery between the beginning of 2011 and June 2014 and treated for iatrogenic bile duct injuries, complications of laparoscopic cholecystectomy, were analysed. The patients were referred to the department as a reference centre.

Results. In the group of 186 patients, females predominated (69.4%) and the mean age was 52 years. A considerable increase in the mean age of patients treated in 2014 as compared with previous years was seen. This was related to an increased rate of bile duct injuries in patients aged over 70 years, who accounted for about 25% of the group. In previous years, bile duct injuries in patients of such an advanced age happened considerably less frequently.

Conclusions. A iatrogenic bile duct injury in an elderly person may prove a fatal complication. A repair surgery, i.e. the biliary-enteric anastomosis, is a major and burdensome procedure, particularly in the case of patients aged over 70 years. Special caution during laparoscopic cholecystectomy is advised in this population, and the slightest doubts should lead to conversion.

Key words: cholecystectomy, complication, iatrogenic bile duct injury

Cholecystectomy is still one of the most common surgical procedures performed at general surgery departments. The superiority of laparoscopic surgery to open surgery is unquestionable – it is associated with reduced postoperative pain, shortened hospital stay and more rapid recovery. Regrettably, an increase in the number of laparoscopic surgeries entailed an increase in bile duct injuries during cholecystectomy. In the past, when open surgeries were performed, the complication rate was estimated at 0.2-0.3% (1). Since the introduction of the laparoscopic method, the complication rates have reached up to 1.5%, as is reported by many centres (2-6).

Bile duct injuries may lead to serious complications, including the patient’s death. In addition, they give rise to a number of legal actions.

So far, a typical patient with a bile duct injury admitted to a reference centre for the treatment of a iatrogenic bile duct injury turned out to be a young person, aged 25-50 years, more frequently a female and usually slim. Is that still the case?

The purpose of the paper was to identify the age of patients with iatrogenic bile duct injuries as well as the clinical course observed in recent years.

MATERIAL AND METHODS

Between the beginning of 2011 and 17 June 2014, 186 patients diagnosed with a bile duct...
injury” at various centres were admitted to the Department of General, Transplant and Liver Surgery Medical University of Warsaw (fig. 1). All the patients had been referred to the Department as a reference centre by other wards and surgery departments.

Based on medical records, the age structure of patients hospitalised in given years was analysed. Patients were divided into six age groups: < 30 years, 30-39 years, 40-49 years, 50-59 years, 60-69 years and ≥ 70 years.

RESULTS

The group of 186 patients comprised 129 females (69.4%) and 57 males (30.6%). The mean age was 52 years. The youngest patient was 19, while the oldest – 86.

Figures 2a and 2b show the age structure of patients admitted due to a iatrogenic bile duct injury. What is worth noting is a considerable increase in the number of admissions due to a bile duct injury among patients aged over 60 years, which has been observed since 2013. In the years 2011 and 2012, that age group accounted for 32.6% and 31.3% admissions, respectively, while in the following years, for up to 41.5% and 45.5% of admissions (in 2013 and 2014, respectively). It was reflected in the mean age, which was 51 and 50 years in 2011 and 2012, respectively, and 53 and 58 years in 2013 and 2014, respectively (tab. 1). The mean age in that patient group was also affected by a decline in the number of patients aged below 40 years: in 2013, the number (13%) was comparable to the two previous years (13% and 16% in 2011 and 2012, respectively), and in 2014 such patients accounted for mere 6% of the age group, and there were no patients aged below 30 years.

The gender structure in the years in question remained unchanged, and females predominated, with the female-to-male ratio of approximately 2:1 (fig. 3).

Patients with a iatrogenic bile duct injury who are aged over 70 years are a special population. In the past, the number of patients with a iatrogenic bile duct injury who were aged over 70 years was not significant, and of those admitted to the Department, most patients were aged 70-74 years (fig. 4). At present, we are seeing in increase in the number of el-
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derly patients. By mid 2014, patients aged over 70 years accounted for 27.3% of all hospital admissions due to a bile duct injury after cholecystectomy, of which only one patient was in the range of 70-74 years, and all other patients were older. What is important, even one third of the patients were aged over 80 years.

DISCUSSION

So far, the issue of an increase in the age of patients with iatrogenic bile duct injuries has not been discussed in the literature. The papers published in recent years present patients treated as long ago as in the 1990s. In these papers, the mean age of patients is generally in the range of 40-50 years (7-11). A higher mean age was reported by Pekolj et al. and it was 56.4 years; however, the entire group comprised only 18 patients aged 18-81 (12).

Other publications about iatrogenic bile duct injuries focus on the type of injury, risk factors, the method of reconstruction – surgical or endoscopic – and the quality of life after reconstruction. However, appropriate management of elderly patients with iatrogenic bile duct injuries, who have a number of addi-
tional burdens, is becoming an increasingly grave problem. Old age was identified as one of the risk factors for a bile duct injury during cholecystectomy a long time ago, and Waage et al. consider the risk in patients aged over 70 years 2.5-fold higher compared with patients aged below 30 years (5).

At present, biliary-enteric anastomosis using the Roux-en-Y loop is the established and recommended surgery for biliary reconstruction (fig. 5, 6, 7 and 8).

In the case of elderly patients, who are at a particularly high risk of infection and worse anastomosis healing, it is an extensive and burdening surgery. It also happens that the patients require re-operation due to a stricture in the biliary-enteric anastomosis, which further increases the risk of complications and even death (13, 14).

CONCLUSIONS

Due to the risk of death, great caution is advised to accurately identify the gallbladder structures in elderly patients with iatrogenic bile duct injuries, and the slightest doubts should lead to the decision to convert to open surgery, which also should be performed with utmost caution. Iatrogenic bile duct injuries in patients aged over 75 years expose them to extensive and difficult bile duct reconstruction surgeries.

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