The biliary diseases in the elderly patients were definitely diagnosed. According to the surgical indications or contraindications, the patients were randomly assigned to the surgical group and the non-surgical group.

The patients were voluntarily discharged from hospital, because of refusing to cooperate with group therapy.

According to the individual patient's status, the appropriate surgical procedures were selected, such as pancreaticoduodenectomy, radical resection of hilar cholangio-carcinoma, laparoscopic cholecystectomy (LC), etc.

Non-operation treatment strategy includes, but is not limits to, anti-infection, symptomatic and supportive treatments.

**Control or Comparator(s)**

SPSS 18.0

**Primary Outcome(s)**

The average age of 289 patients with biliary diseases was 73.9±8.5 (60–102) years old. There were 131 (45.3%) cases with one type of 10 different biliary diseases, such as gallbladder stones, common bile duct stones, and cholangiocarcinoma. The remaining cases (54.7%) had two types of biliary diseases. 173 cases underwent 9 different surgical treatments, including pancreaticoduodenectomy, radical resection of hilar cholangiocarcinoma, laparoscopic cholecystectomy among others. Ten postoperative complications developed with the incidence of 39.3% (68/173). The highest incidence was hypopotassemia in 33.8% (23/68), followed by hypalbuminemia in 22.1% (15/68), and pulmonary infection in 19.1% (13/68). 116 cases underwent non-operative treatment, including anti-infection, symptomatic and supportive treatments. The cure rate was 97.1% (168/173) in the surgical group, and 87.1% (101/116) in the non-surgical group. There was a significant difference between the two groups (χ²=17.227, p<0.05).

**Key Secondary Outcomes**

77.2% (223/289) patients were found to have 1–6 types of 13 various coexisting diseases, which include hypertension, coronary heart disease and diabetes.

**Target Sample Size**

289 elderly patients over 60 years of age

**Recruitment Status**

Enrolment completed

**Date of First Enrolment**

June 01, 2013

**Date Enrolment Expected to Complete or Completed**

December 31, 2016

**Date research expected to be completed (or date completed if already done so)**

December 31, 2016

**IRB or Ethical Committee Judgement**

Granted

**Ethical Approval Details - Judgement Date and Reference/If not needed - why not?**

The study has been approved by the ethics committee of Beijing Electric Power Hospital, Capital Medical University.

**Source(s) of Monetary or Material Support**

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**Research Study Website**