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Impact of advanced age on clinical characteristics and surgical outcomes after laparoscopic cholecystectomy in patients with acute cholecystitis

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Background : Impact of advanced age on disease characteristics of acute cholecystitis (AC), and surgical outcomes after laparoscopic cholecystectomy (LC) has not been established.

Methods : This single-center, retrospective study included patients who underwent LC for AC between April 2010 and December 2020. We analyzed the disease characteristics and surgical outcomes according to the age: Group 1 (Age < 60), Group 2 (60 ≤ Age < 80), and Group 3 (Age ≥ 80).

Results : Of 1,876 patients (809 [43.1%] women), 723 were in Group 1, 867 in Group 2, and 286 in Group 3. With increasing age, the severity of AC increased, and combined common bile duct stones increased. Group 3 demonstrated significant worse surgical outcomes when compared to Group 1 and 2 for overall (4.0 vs 9.1 vs 18.9%, $p < 0.001$) and serious complication (1.2 vs 4.2 vs 8.0%, $p < 0.001$), length of hospital stay (2.78 vs 3.72 vs 5.87 days, $p < 0.001$), and open conversion (0.1 vs 1.0 vs 2.1%, $p = 0.007$). Incidental gallbladder cancer was also the most common in Group 3 (0.3 vs 1.5 vs 3.1%, $p = 0.001$). In multivariate analysis, body mass index < 18.5, moderate/severe AC, and albumin < 2.5 g/dL were significant risk factor for serious complication in Group 3.

Conclusions : Advanced age is associated with severe AC, worse surgical outcomes, and higher rate of incidental GB cancer following LC. Therefore, in elder patients with AC, especially those with poor nutritional status and high severity grading, LC should be decided carefully and delicate postoperative management is required for patients' safety.

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