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Postoperative Pulmonary Rehabilitation After Hepato-Pancreato-Biliary Surgery

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Background : Postoperative pulmonary complications (PPCs) have an impact on the recovery of adults after Hepato-Pancreato-Biliary surgery. It is therefore important to establish whether perioperative respiratory rehabilitation can influence pulmonary function and to identify adults who might benefit from respiratory rehabilitation.

Methods : From January 1, 2021 to December 31, 2022, 802 patients were referred to the rehabilitation department for abdominal surgery. Among them, changes in pulmonary function were observed prospectively and consecutively in 91 people who underwent perioperative pulmonary rehabilitation in patients with hepato-pancreato-biliary malignancies and underwent postoperative pulmonary function tests. Pulmonary rehabilitation was conducted with intensive spirometer and inspiratory muscle training and positive expiratory pressure training, and self-exercise education and aerobic exercise methods were taught after operation. In most cases, pulmonary rehabilitation by physical therapists was provided only during hospitalization for surgery, and outpatient rehabilitation was not performed, and rehabilitation doctor directly trained and monitored in outpatient clinic.

Results : The total number of subjects was 91 and the average age was 69 ± 11.95 (men=59, 64.8%). There were 37 cases of hepatocellular carcinoma, 33 cases of CBD cancer, 14 cases of pancreas cancer, and 7 cases of the rest. There are many patients with decreased pulmonary function within 3 months immediately after surgery, and in the case of FVC percent, patients with a decrease of about half compared to preoperative. In most cases, pulmonary function improved over time, but in some cases, even after a year, it did not recover to a pre-operative state.

Conclusions : Even pulmonary rehabilitation during hospitalization after hepato-pancreato-biliary surgery cannot completely prevent initial respiratory function weakness. Patient-tailored rehabilitation treatment should be provided to restore to pre-operative status. And we can consider pulmonary function testing whether it is similar to pre-operative value at least a year later.

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