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Surgical Strategies for Dropped Head Syndrome: Outcomes and Future Directions

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Background: The aging population in Japan has contributed to an increased prevalence of cervical spondylosis, often presenting as dropped head syndrome (DHS). Our clinic has encountered a substantial number of such cases, prompting this report on our treatment approach.

Objectives and Methods: Although DHS is primarily characterized by a weakening of the posterior cervical muscles, initial treatment focuses on managing underlying diseases and implementing rehabilitation, which improves symptoms in over half of the cases. For osteoporosis patients, parathyroid hormone (PTH) therapy is introduced. Surgical intervention is considered for the remaining patients. The standard surgical protocol includes anterior cervical fixation followed by posterior fixation one week later. Our procedure involves anterior release and subsequent in situ posterior fixation after laminoplasty to prevent iatrogenic myelopathy. Preoperative imaging findings, such as T1 slope, C2-7 angle, and the 3-type classification proposed by Kudo, guide surgical decision-making.

Results: From July 2020 to the present, 107 patients with DHS were examined in our outpatient clinic, with eight undergoing surgical treatment (Type 1: 2 cases, Type 3: 6 cases). Both Type 1 cases achieved favorable postoperative outcomes. Among the Type 3 cases, three patients who underwent cervical spine surgery showed minimal improvement in DHS, and one experienced a postoperative vertebral fracture at the thoracolumbar junction. In contrast, the three Type 3 cases treated with lumbar spine surgery had favorable postoperative outcomes.

Conclusions: Anterior and posterior fixation surgeries have proven effective in improving ADL in DHS patients. While our approach has been successful for Type 1 cases, future efforts must address treatment strategies for Type 2 cases requiring thoracic pedicle subtraction osteotomy (PSO) and Type 3 cases necessitating lumbar spine surgery.