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A Nationwide Multicenter Study of the Cost Effectiveness of Five Leading Drugs for Pharmacological Management of Cervicobrachial Symptoms

Norimitsu Wakao¹, Takeo Furuya², Toshitaka Yoshii³, Hideyuki Arima⁴, Hiroaki Nakashima⁵, Takashi Kaito⁶, Masahiko Takahata⁷, Masao Koda⁸, Kenta Murotani⁹, Hiroshi Hashizume¹⁰

¹Aichi Medical University, Department of Orthopaedic Surgery, Nagakute, Japan

²Chiba University, Department of Orthopaedic Surgery, Chiba, Japan

³Tokyo Medical and Dental University, Department of Orthopaedic Surgery, Tokyo, Japan

⁴Hamamatsu University School of Medicine, Department of Orthopaedic Surgery, Hamamatsu, Japan

⁵Nagoya University Graduate School of Medicine, Department of Orthopaedic Surgery, Nagoya, Japan

⁶Osaka Rosai Hospital, Department of Orthopaedic Surgery, Osaka, Japan

⁷Hokkaido University, Department of Orthopaedic Surgery, Sapporo, Japan

⁸University of Tsukuba, Department of Orthopaedic Surgery, Tsukuba, Japan

⁹Kurume University, Biostatistics Center, Kurume, Japan

¹⁰Wakayama Medical University, Department of Orthopaedic Surgery, Wakayama, Japan

Background: Cervicobrachial pain frequently affects the quality of life (QOL) of the general public and has a significant economic impact on the health care systems of various countries. There are a number of treatment options for this disease, including widely-used drug therapy, but the effectiveness of each option is indeterminate, and there have been no published cost-effectiveness analysis studies so far. This prospective observational study aimed to examine the cost-effectiveness of drug treatment for cervicobrachial symptoms.

Methods: A 6-month medication regimen for each of five frequently-prescribed drugs for cervicobrachial symptoms was administered to 322 patients at 24 centers in Japan. Outcome measures, including of the EuroQol Group 5D, Short Form-8, and Visual Analog Scale (VAS), were investigated at baseline and every month thereafter. Incremental cost-effectiveness ratios (ICERs) of the drug cost to quality-adjusted life years (QALYs) were calculated. A stratified analysis of patient characteristics was also performed to identify baseline factors potentially affecting cost-effectiveness.

Results: The ICER of entire drug treatment for cervicobrachial symptoms was 7,491,640 yen. Compared with the reference willingness-to-pay, the ICER was assumed to not be cost-effective. A certain number of QALYs were gained during the first 3 months after the treatment intervention, but almost no QALYs were gained during the following 3 months. Stratified analysis showed that cost-effectiveness was extremely low for patients with high baseline VAS and high QOL.

Conclusions: The available medications for cervicobrachial symptoms did not have excellent cost-effectiveness. Although a certain number of QALYs were gained during the first 3 months after medication, no QALYs were gained in the latter half of the study period, suggesting that it is not advisable to continue the medication needlessly.