

# Rheumatoid arthritis of the cervical spine

## Aspects on the surgical treatment

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The long-term results following posterior occipito-cervical fusion using the Brattström technique were evaluated in 100 consecutive patients with rheumatoid arthritis (RA) and atlanto-axial (AA) dislocations. The patients were followed up to 16.5 (mean 4.5) years postoperatively. Clinically, 67% of the patients showed a major improvement and 14% had less pain, partly reduced neurologic signs, and were stable. There was no operative mortality. At follow-up, 45 patients had died, most commonly of cardio-pulmonary disease.

In 23 patients with severe RA, the cervical spine was examined with magnetic resonance imaging (MR) and conventional radiography. The results were compared with the clinical signs. Conventional radiography demonstrated pronounced arthritic changes in all the patients. MR provided detailed information on soft tissue lesions, vertebral dislocations, and cord compression. Periodontoid pannus was found in 14 patients. Sagittal MR in the neutral position combined with conventional radiography, including lateral views in flexion and extension, provided the information necessary for the clinical management of the rheumatoid cervical spine.

The effect of occipito-cervical fusion on periodontoid pannus was assessed with MR in 9 patients. MR revealed reduction of the pannus in all. Artifacts from the surgical fixation material were confined to the posterior part of the neck and did not interfere with the evaluation of the periodontoid region.

10 RA patients undergoing occipito-cervical fusion were evaluated with roentgen stereophotogrammetry (RSA). Micromotions were detected in all patients following fusion. However, this was compatible with a successful clinical outcome.

During 23 occipito-cervical fusions using methylmethacrylate, the epidural temperature during curing was recorded and the effect of surface irrigation was evaluated. Temperatures up to 69 °C were recorded. Cooling with irrigation did not reduce the epidural temperature.

Disease characteristics and functional capacity in 20 RA patients undergoing occipito-cervical fusion were studied before and after surgery. Pain and neurologic symptoms were relieved but there was little evidence of functional improvement.

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