In this issue, Dr. Hiroshi Shima of the Department of Neurosurgery at the Yokohama Sakae Kyosai Hospital relates his experience of SEAMDURA implantation as a dural flap in microvascular decompression surgery, describing the usefulness of this dural substitute — its bioabsorbability and translucency — and identifying a number of concerns to be addressed.

**SEAMDURA in Microvascular Decompression Surgery**

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In routine craniotomy procedures, dural suturing prevents leakage of cerebrospinal fluid (CSF). However, because the dural flap is incised thinly in small craniotomy procedures such as microvascular decompression, duraplasty is difficult to perform with sutures alone. Surgical practice has therefore traditionally involved stitching to Surgicel with the aim of avoiding remnant foreign bodies, reinforced with fibrin glue. In many instances surgeons have selected this and other techniques that are not completely adequate in terms of preventing leakage of cerebrospinal fluid.

Recently, we have begun using the bioabsorbable artificial dural substitute SEAMDURA at our center for closure following microvascular decompression. SEAMDURA is completely absorbed and dissolves at approximately 8 months after implantation, and can reduce the risks of future foreign body reaction or infection. In this article, I describe the use of this dural substitute in a typical case.

**Case** The patient was a 62-year-old woman who underwent microvascular decompression for recurrence of left facial spasm. The compressed vessel was the PICA. A prosthesis was interposed between the PICA and the brain stem, and elevation of the PICA released the REZ compression (Photo 1, 2). To obtain an adequate operative field in small craniotomy, an arc-shaped flap was incised toward the sigmoid sinus side, and since the dura was incised in multiple directions, the resulting shape of the dural flap was complex. When performing duraplasty, SEAMDURA (2×10 cm) was cut to the size of the craniotomy and then sutured to the dura using 4-0 Nurolon (Photo 3). Because it was possible to achieve leakproof sutures, fibrin glue was not required. Postoperatively, no subcutaneous accumulation of CSF was seen, and the patient’s symptoms improved (Photo 4). At present she is being seen on an outpatient basis, and has an excellent clinical course with no major problems.

As outlined above, the advantages of this product include not only bioabsorbability but also translucency, making it possible to directly observe the brain surface after duraplasty. However, in common with products marketed by other companies, SEAMDURA is harder than the natural dura. Hence, when the prepared dural substitute is larger than the size of the craniotomy, the dura rises slightly when suturing and it is difficult to obtain a leakproof outcome. To prevent the subcutaneous accumulation of CSF surely, in these days fibrin glue is applied to sutured sites. Furthermore, when used extensively for small craniotomy, the amount wasted far exceeds the amount to be used. Similar concerns may arise in the future when the product is used to cover a small dural defect, and a smaller product size may be more convenient and useful.

Notwithstanding the issues enumerated above, SEAMDURA remains an extremely useful product, and the opportunities for its use can only increase in the future.