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Neuroplasty

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There are various causes for back pain and the following pathophysiology has been widely reported. Recently, there has been a study that suggested epidural adhesion as a potential cause for back pain [1], and there have been new approaches for the treatment of back pain. There are numerous methods to treat patients with back pain, such as physical therapy, pharmacotherapy, nerve block, folk remedies and so on, the list is vast in variety. A treatment method that is applied to spinal pain patients called neuroplasty, is one of the many examples. The basic concept of neuroplasty is that the cause of back pain comes from the adhesion and inflammation in the epidural space with stimulating the nerve roots, and by removing the cause of adhesion and reducing the inflammation, the pain can be removed. This type of treatment began with epidural adhesiolysis,which was designed by Racz in 1989, FDA approved in 1995, and performed with the widely used Racz Catheter [2,3]. Afterwards, similar instruments, such as the Navi catheter, were developed in order to control the direction of the catheter during procedures, and to be more effective in adhesiolysis. Such methods were introducedunder the title of neuroplasty.

According to the reports regarding neuroplasty, it is very useful tool of treatment for the patients with changes in nerve function due to neural inflammation that is caused by nerve stimulation from disc herniation, as well as for patients with nerve irritation due to epidural adhesion after spine surgery. The catheter can be inserted into the lesion area, which may alleviate pain when detaching the adhesion, and may also allow for the direct administration of medication to the lesion,so that the source of pain can be removed,resulting in the ease of back pain. There was research conducted on patients with chronic back pain from failed back surgery syndrome and spinal stenosis, where one group was treated with the administration of steroids in the epidural space, and the other group was treated with percutaneous epidural adhesiolysis [4,5]. The results showed that the group treated with percutaneous epidural adhesiolysisexperienced a consistent reduction in pain and improvementwith function disability compared to the group only on steroids. Also, there were far better results in the employment of patients and the use of narcotic analgesics.

Recently, especially in Korea, many hospitals are performing a lot of epidural neuroplastywhich is helpful formany patients with back pain, but there is still a need for a more detailed evaluation on patient satisfaction regarding cost-benefit and long term efficacy. Neuroplasty has a low possibility for complications and has excellent effects, but its use is limited to patients with a severe degree of adhesion, which makes adhesiolysis difficult with one catheter, or to patients with limits in catheter insertion due to severe spinal stenosis and huge disc herniation. Therefore,

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a more accurate understanding and education regarding neuroplasty is necessary, as well as further research for a more effective and efficient method and for more appropriate indications. Specifically, multi-institutional research should be conducted so that operators can discuss the procedure each otherfrom various angles. There should not only be discussionsin the problems of the limits in the treatment, but clarification of the term neuroplasty should also be explained, for example,the differences between neuroplasty and percutaneous epidural adhesiolysis. So there should not be confusion for the operator and patient.

As is for any treatment, neuroplasty must also be performed with the right indications in order to produce successful results and patient satisfaction. However, when it is performed indiscriminately, without strict indications, the credibility of the procedure can become depreciated, as well as having the patient bear another burden, which can eventually lead to social problems.

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