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A Complication of IVH Catheterization

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Intravenous hyperalimentation (IVH) has recently become popular as an effective medical management. For performance of IVH, basic knowledge and tecnique of medicine are also necessary because this is often used in so serious cases that its complication is sometimes to be fatal. This tecnique really practiced by junior doctors carries possibility of various accidents. This paper presents an absurd accident in IVH catheterization.

Case

A 56 y.o. male, epipharyngeal cancer, was hospitalized in the service of radiology.

Fig. 1 The broken segment of radiopaque tube is seen in the left upper arm on Xray film.

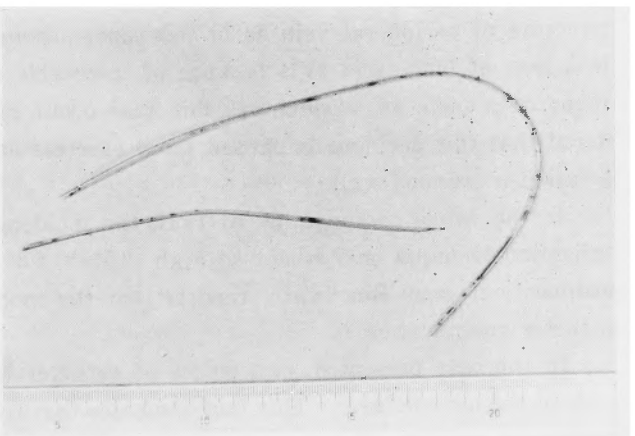

Fig. 2 Two pieces of the broken segments were extirpated from the flexor muscles.

Key words: IVH, complication of IVH
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After a long and unsuccessful trial of venous catheterization with CVP INTRAFUSOR tube (SORENSON RESEARCH Co.) by a junior doctor, the tube was broken down at the site of skin puncture. The intended route of this trial was percutaneous, through basilic and subclavicular vein, to SVC. The authors were then called on for removal of broken segments of the tube left in vein of the left upper arm. Reffering to Xray film (Fig. 1) and subcutaneous linear induration, the basilic vein was exposed, incised and found to contain nothing more than thrombi. The Xray films newly taken from two directions revealed that the broken segments remained in flexor muscles of the upper arm, which were after all extirpated. (Fig. 2)

A month has passed after the operation without any chest complaint such as dyspnea, chest pain, etc..

Comment

The basic research and clinical application of IVH was done at first chiefly by abdominal surgeons, who must treat many patients that cannot take anything per os. The effectiveness of IVH has been recently recognized in many other areas of medicine. With increase of frequency in use, however, some absurd and nonsensical accidents have been reported due to lack of fundamental knowledge and tecnique.

In order to catheterize into the central vein, various routes are recommended. One of the most popular routes is through subclavicular vein with percutaneous puncture. In more than 50 times punctures by authors, there has been scarcely serious complication such as pneumothorax, hemothorax, etc.. From the point of safety and sureness, it is the best way to catheterize, though troublesome, into the cephalic vein exposed between deltoid and major pectral muscles. An easier way is percutaneous puncture of peripheral vein as in this report, though this method should not be chosen in a case of long term IVH because of inevitable thrombophlebitis of the site. Why, then, does such an accident as this case occur in this easy maneuver? It is considered that this accident is caused from careless and violent manipulation led to perforation of venous wall.

In the whole complication of IVH, the incidence of complication caused by catheterization tecnique only is not so high (2.5%[3], 8.6%[2], etc.) as far as practiced by the ordinarily trained. BERNARD[1] reports that the more operater's experience is, the less catheter complication is.

In the case presented, two pieces of catheter broken in half was found side by side in the muscle layer. This fact indicates that the manipulation far beyond common sense was carried. One can say that such a complication was not caused from lack of skill but lack of basic knowledge in medical practice. It is possibly suggested how training of basic tecnique in medical practice is made light of in recent highly specialized medicine.

Summary

An absurd accident in IVH catheterization with CVP INTRAFUSOR tube (SORENSON RESEARCH Co.) was presented, stating that training of basic tecnique in medical practice should not be neglected in every non-surgical department.

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和文抄録

中心静脈カテーテル法合併症の1例

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最近われわれは，高カロリー輸液を目的として経皮経末梢静脈的に中心静脈へ挿入を試みられ，上腕部にて断裂，遺残したカテーテル（CVP INTRAFUSOR tube, SORENSON RESEARCH Co.）の摘出を依頼された．遺残カテーテルは2片が並行して屈筋内に埋没していた．