

FENESTRATIONS TRANSPORTER DEVICE

Introduction

In the treatment of aortic aneurysms, prostheses tailored to the patient are used more and more frequently. These prostheses are made by the industry and the term is usually approximately 30 days, making it impossible to have them urgently.

In emergency situations, it is very common for these prostheses to be made by the surgeon himself, modifying conventional prostheses. The modification of the prosthesis is carried out by making holes (fenestrations) that specifically coincide with the patient's blood vessels. These holes must have millimeter precision for the good result of the procedure.

At present, this emergency practice is carried out through the use of everyday instruments such as a ruler, so it is easy for inaccuracies to arise.

Product

The inventor has successfully designed and tested a tool that allows the exact location of these fenestrations to be easily transferred to the prosthesis.

The purpose of the fenestration transporter is to serve as a three-dimensional template to easily transfer a variable number of points to a cylindrical vascular endoprosthesis, so that it allows the correct transposition of the points in which the fenestrations are to be performed, after prior planning.

On the other hand, since it is a translucent element, the location of the fenestrations can be easily determined by means of transillumination, taking into account the position of the metallic support element corresponding to the endoprosthesis.



Figure 1. Introduction of the prosthesis in the fenestration transport device.

State of the invention

This device has a prototype which has been functionally validated by health experts, achieving successful results.

Advantages

Apart from the precision that this invention offers with respect to the procedure that is currently used in times of urgency, another advantage that the invention offers is the possibility of implementing this tool in the vast majority of anatomies, allowing immediate availability of the same after sterilization. This allows to have a series of devices ready for use without waiting times. In addition, the production of this instrument can be done by 3D printing, making it easy to extend its use, while representing a very low cost.

Protection

Spanish Utility Model requested on 21/02/2022 and with application number U202200057.

Inventors

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Figure 2. Precise perforation of the prosthesis by means of the fenestration transporter device.