LEIDEN UNIVERSITY MEDICAL CENTER

Pressure sensor for use in an artery

Market Sector: Medical devices, Cardiovascular devices

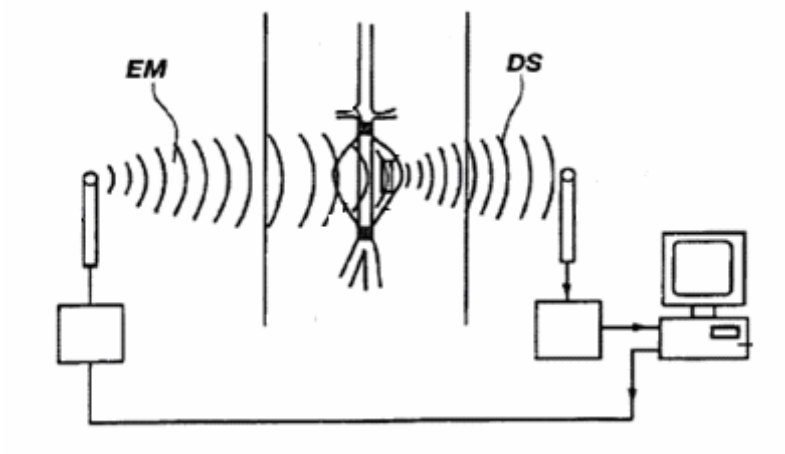

Figure 1: Schematic illustration of the invention for reading data measured by the pressure sensor

The last 10 years aneurysms can alternately be treated by an endovascular operation placing an endoprosthesis which is considerably less invasive and which can be positioned within an artery by means of a number of stents securing fixation to the aortic wall.
A major problem, however, is the occurrence of endoleakage. The leakage can result in a pressure build-up within the aneurysmal sac.

Information about the exact aneurysm sac pressure after the endovascular operation is important. Firstly, not all endoleaks on CT-scans seem to have clinical consequences. Secondly, failure to visualize an endoleak by CT does not exclude the presence of such an endoleak or the possibility of high pressure in the aneurysm sac. Pressurized aneurysms may rupture and have proven to do so.

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The invention includes an *in vivo* wireless pressure sensor for measuring the pressure within the aneurysmal sac. The data can be stored in the transponder allowing data to be taken from the pressure sensor over a prolonged period of time. The sensor can be introduced in the aneurysmal sac by endovascular means.

Keywords
Medical devices, (cardio)vascular measuring devices, medical implants, pressure measuring devices

Current study
Recent completed studies include further investigation of pressure measurements such as the accuracy of aneurysm sac measurements, the effect of pulsatile motion of graft attached pressure sensors and the influence of intraluminal thrombus on pressure transmission.

For further information, please contact LUMC.

Key Benefits

- Wireless
- Easy and accurate measurement
- Introduction of device through same catheter as endoprosthesis
- Stable positioning within artery
- Means for storing data over a longer period of time
- No battery requirements through electrical and/or magnetic field energy.

Applications
Pressure monitor can be applied to arteries, veins and other blood vessels.

Commercial Partner Sought
Manufacturer of medical devices with expertise in cardiovascular devices.

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