



## **The echocolor Doppler of the abdominal aorta: a minute to save a life**

It is the month of prevention for the fracture of the Abdominal Aorta Aneurism, laudable initiative of the Italian Society of Vascular and Endovascular Surgery (SICVE)

### **A NON-INVASIVE METHOD WITH IMMEDIATE RESULT**

The echocolor Doppler uses the well-known echographic diagnostic, which integrates the physical effect of the Doppler. Besides, the hemodynamic dimension is added, through a color code: a body in movement (in our case the blood) makes the ultrasounds bounce according to determined laws that are shown on the screen.

It emits a very accurate evaluation of the blood vessels, both arterial and venous. The method allows a very reliable evaluation of all the arteries and veins that are in the subcutaneous layers, but also deep in the abdomen, for a precise analysis, but especially non invasive! No punctures, rays or any other oddities.

It is a diagnostic method, absolutely harmless, repeatable, and very precise. The advent of this diagnostic method revolutionized the analysis of vascular diseases and allowed a great step forward in the prevention of very disabling diseases as the cerebral ictus or the phlebotrombosis of the lower arts and the ANEURISM OF THE ABDOMINAL AORTA.

### **DIAGNOSTIC INDICATIONS**

It is useless to say that the indications of the echocolor Doppler are many and useful: let us see them as we did few years ago.

- carotid echocolor Doppler and the Section Above the Aorta: it allows a morphological and hemodynamic evaluation of the carotid arteries and the vertebral arteries, the one that bring blood to the brain. It is very useful in the prevention of the atherosclerotic cerebral disease and in the prevention of ictus. But it is fundamental even in the monitoring of surgical operations of carotid revascularization.

- arterial abdominal and lower arts echocolor Doppler: it allows a careful evaluation of the arteries that bring the blood in the lower arts allowing to diagnose pathologies of the aorta and the arteries of the lower arts (aneurism), basically when an artery swells. The method is useful to diagnose stenosing pathologies (that obstruct) the arteries of lower arts.

- venous abdominal and lower arts echocolor Doppler: it allows an evaluation of the layer of our veins and those vessels that bring the blood to the heart. It is very useful to diagnose phlebitis, and also to highlight the presence of varices, so that it becomes an absolutely essential exam before any other operation that presents this problem. It allows the so-called

mapping of varices and allows the surgeons to exactly know where to make the micro incisions through which section and correct the dilated veins.

- scrotum echocolordoppler: it is very useful even in the diagnostic of varicocele; the method highlights the dilated veins of the spermatic cord. The varicocele is one of the most frequent causes of sterility in men.

## **QUESTIONS TO THE SPECIALIST**

### **What is the abdominal aneurism of the aorta?**

The aorta is the artery that starting from the heart goes into the abdomen and then it divides in the iliac arteries that continues in the femoral arteries of the lower arts. The aorta is divided into ascending, aortic arch, and descending aorta.

All the aortic tracts can be subjected to ectasia, dilatation, but today we are talking about the descending aneurism of the aorta, in the abdominal tract, in the stomach.

This tract can dilate, usually below the kidney arteries and forward.

Sometimes the iliac arteries can be involved, some other times only the abdominal aorta.

If this dilatation exceeds the 4 cm length, it becomes dangerous since the wall can break and the blood starts pouring in the abdominal cavity with possible death of the patient.

The echocolordoppler allows visualizing this blood vessel really well and determining with precision the diameters and recovery. The exam can be done in people who are over 30 years old. Only one minute can save a life, executing a careful prevention in the initial cases and heading the patient to the operating room when the dimensions of the aneurism suggest it, before it breaks!

### **Is a particular preparation for the exam expected?**

The echocolordoppler does not provide a particular preparation. Only in the case of abdominal evaluation, a preparation to reduce the air in the abdomen is provided. In fact, the air, for the ultrasounds, is a real wall: they do not go through! And this is the reason why the preparation, before any echographic or abdominal echocolordoppler, is fundamental.

### **Who are the patients who should undergo this exam?**

Let us say that since the safety of the exam, everyone can undergo the treatment without any risks, even pregnant women. It is particularly indicated for patients who are in danger, men, smokers, with atherosclerotic and cardiopathic relatives, who are over 50, and hypercholesterolemia. Also all the patients who had a positive history for relatives who suffered from these pathologies can undergo the procedure. Especially people who suffered from TIA, which is a transitory ischemic attack, should control the carotids, the arteries that bring the blood to the brain. Even patients who suffer from edemas, legs' swelling, especially if it happens all of a sudden, should undergo this exam, even if, the visit to the angiologist remains the first thing to do. Do not forget that for the abdominal aneurism of the aorta, the echocolordoppler is the first exam to undergo.

I would advice all our female patients, as our male patients, who are 30 years old, but especially older patients, to undergo this fundamental exam. Risks are null, while the possibility of prevention and premature diagnosis of very disabling diseases are very important.

Redaelli 2011