It is a common experience of radiologists that the density of organs is changing during our life. This phenomenon is especially conspicuous as a decreasing density of bones, defined either as diffuse osteoporosis, or in more focal appearance as osteomalacia.
On the other hand we can observe an increasing density of the vascular wall with aging. One of the most influential elements is Calcium (Ca^{2+}). We were attracted by these moves of Calcium, being washed out from the bones and being washed in into the vessel wall.
I have carried out an analysis of the intensity of vascular Calcium deposits in two different regions of the body. The abdominal aorta was investigated in 25 patients of which 13 were women and 12 were man, and cerebral arteries were investigated in 23 ischemic stroke patients of which 13 were women and 10 were male.
Previous studies on cerebral arteries have suggested that predilection for sites for atherosclerosis include the bifurcations of the common carotid artery, the sinus portion and the curved terminal part of the ICA and the proximal part of the VA. Most of the time, routine brain CT miss these sites, unless they are intensive. For these reasons only large and highly calcified plaques are detectable on brain CT. (7).
Other studies have also been carried out in order to analyse the progression of Aortic calcification during menopause. It has been found that progression of atherosclerotic calcification is associated with increase bone loss in women during menopause (1).
The best available method of measuring Calcium content in vivo is using the attenuation effects of hard minerals on the transmission of X-rays through the tissue.