

Response to “The diagnostic value of surface stained ground sections for pathohistological evaluation of coil-embolized aneurysms”

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Received: 15 February 2010 / Accepted: 17 February 2010 / Published online: 9 March 2010
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The remarks of Hans Plenck, Jr. on the diagnostic value of surface-stained ground sections of coil-embolized aneurysms are of interest but do not completely cover the problems the neurosurgeon and histopathologist might encounter by comparing the quality of two different devices for the treatment of an aneurysm. Sectioning of plastic embedded coil-embolized aneurysms can be overcome whatever the chemical composition of the coils or tissue might be, but the staining of the plastic embedded tissue is a problem. Removing the plastic after sectioning is rather complicated and leads to displacement of the coils versus the surrounding tissue. This means disturbing the morphology and architecture. On the other hand, working with sections penetrated by plastic does not permit an effective staining as the stains do not penetrate into the tissues. So only the outmost layer or the cut surface can be stained or contrasted and this will not allow to give information on the underlying morphological architecture.

Making a series of consecutive sections will not solve the problem as the pattern of the surface staining cannot lead to an efficient tridimensional organization. Probably combining a computer-assisted program, trying to correlate the histological sections with the angiogram of the embolized region, might give more information but this is not the solution for the histopathologist who is looking for the inflammation and repair patterns. As long as the tissues lying in contact with the coils cannot be stained and as such not visualized in a proper way, it is difficult to use these surface-stained sections in a comparative study. If authors want to compare different embolic devices, the methods they use to make an objective comparison have to be free of subjective interpretation. The combination of angiograms and ground sections to distinguish the quality of different coils seems not to be the perfect match.

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