

On-line Table: Histopathologic findings in humans: review of the literature

Study	No. of Aneurysms	Histopathologic Findings: Dome	Histopathologic Findings: Neck	Coil Type
0 Days to 1 week Bavinszki et al, 1999 ¹⁵ Stiver et al, 1998 ²²	6 1	Uncovered coils, thrombus present, fibroblast invasion Thrombus in aneurysm sac covering the coils	Thin membrane present over aneurysm neck by 6–7 days Discrete fibrin membrane excluding aneurysm sac, contiguous with parent vessel	Bare platinum Bare platinum
Grodén et al, 2003 ¹⁷	1	Thrombus with RBC and fibrin; small groups of macrophages and fibroblasts within thrombus	No endothelialization of neck	Bare platinum
Szikora et al, 2006 ²³ Nakahara et al, 2003 ²⁴ 1–2 Weeks	6 1	Thrombus with RBC, foreign body giant cells, and macrophages Unorganized thrombus	NA Incomplete cell lining, no endothelial cells	Bare platinum Bare platinum
Bavinszki et al, 1999 ¹⁵ Ishihara et al, 2002 ¹⁹	5 1	Covered and uncovered coils; fibrin formation in the aneurysm dome; RBC, WBC, and fibroblast invasion in a majority of patients Very thin fibrin membrane over coils; blood clot in lumen of aneurysm	Thin fibrin membrane over the neck Endothelial cells encroaching on platinum coils at aneurysm neck with thin neointima	Bare platinum Bare platinum
Grodén et al, 2003 ¹⁷ Szikora et al, 2006 ²³	2 5	Fresh thrombus with RBC and fibrin, few macrophages Fresh thrombus, unorganized thrombus, foreign body giant cells, leukocyte infiltration, macrophages	Thin layer of endothelial cells Fibrin covering coils at neck	Bare platinum and Matrix Bare platinum
2 Weeks to 1 month Bavinszki et al, 1999 ¹⁵ Horowitz et al, 1997 ¹⁸	3 1	Fibroblast invasion in all cases; leukocytes present; fibrin-containing thrombus Thin fibrin layer covering coils	Covered coils, thin fibrin membrane over orifice Endothelial and fibroblastic proliferation at edges of neck along the coils, thin film of fibrin	Bare platinum Bare platinum
Shimizu et al, 1999 ²¹ Grodén et al, 2003 ¹⁷ Szikora et al, 2006 ²³	1 2 1	Organized thrombus at periphery of aneurysm lumen Thrombus formation with fibrin and RBCs RBC-containing thrombus in aneurysm dome	No neoendothelium, aneurysm not isolated Fibrin formation in 1 aneurysm Fibrin covering coils at aneurysm neck	Bare platinum Bare platinum Bare platinum
1–3 Months Bavinszki et al, 1999 ¹⁵	1	Covered coils, fibroblast organization, endothelial lining, fibroblasts, fibrin, and capillary formation	Thin fibrin membrane over aneurysm neck	Bare platinum
Szikora et al, 2006 ²³	2	Thrombus in aneurysm sac with unorganized thrombus, foreign body giant cells, no leukocyte infiltration, macrophages present; some collagen formation	NA	Bare platinum
3–12 Months Grodén et al, 2003 ¹⁷	1	Vascularized connective tissue, also embedded on the coils; multinucleated giant cells adjacent to coils	Completely covered by a layer of long, slender cells resembling endothelium	Bare platinum
Szikora et al, 2006 ²³	1	Foreign body giant cells, leukocyte, and macrophage infiltration; fibrocellular reaction; neovascularization, collagen formation	NA	Bare platinum and Matrix
Suda et al, 1999 ²⁵ >12 Months	1	NA	Thin wall of endothelial cells contiguous with parent vessel	Bare platinum
Bavinszki et al, 1999 ¹⁵ Suda et al, 1999 ²⁵ Castro et al, 1999 ¹⁶	1 1 2	Coils incorporated into aneurysm wall; fibrocytes, collagen, capillary formation NA Vascular fibrous connective tissue scar; inflammatory cells in periphery; foreign body response (giant cells) surrounding coil	NA Thin wall of endothelial cells contiguous with parent vessel Thick dense layer of collagen covering aneurysm neck and single layer of endothelial cells; endothelium not continuous with parent vessel	Bare platinum Bare platinum Bare platinum
Mizoi et al, 1996 ²⁶	1	Stable thrombus surrounding aneurysm coil	No endothelialization of aneurysm neck; coil was not present at the aneurysm neck however	Bare platinum
Molyneux et al, 1995 ²⁰	2	Unorganized clot surrounding coils; variable degree of organization of the clot with capillary penetration; macrophages and inflammatory cells and fibrosis were minor components	No endothelialization	Bare platinum
Ishihara et al, 2002 ¹⁹	1	Coil embedded in fibrous tissue with little inflammatory cellular reaction; no thrombus	Endothelial cells encroaching on platinum coils at aneurysm neck; endothelial cells associated with a thickened layer of fibrous tissue	Bare platinum
Dai et al, 2005 ⁴	1	Loose, hypocellular amorphous tissue; sparse collagen, and myofibroblasts	Completely covered with layer of hypocellular tissue; sparse myofibroblasts and collagen	Bare platinum
Nakahara et al, 2003 ²⁴ Szikora et al, 2006 ²³	1 3	Organized fibrous tissue and vascularized granulation tissue Unorganized thrombus; foreign body giant cells; leukocyte and macrophage infiltration; fibrocellular reaction; neovascularization; collagen formation	Single layer of endothelium Fibrotic tissue deposition at aneurysm neck	Bare platinum Bare platinum

Note:—NA indicates not applicable; RBC, red blood cell; WBC, white blood cell.