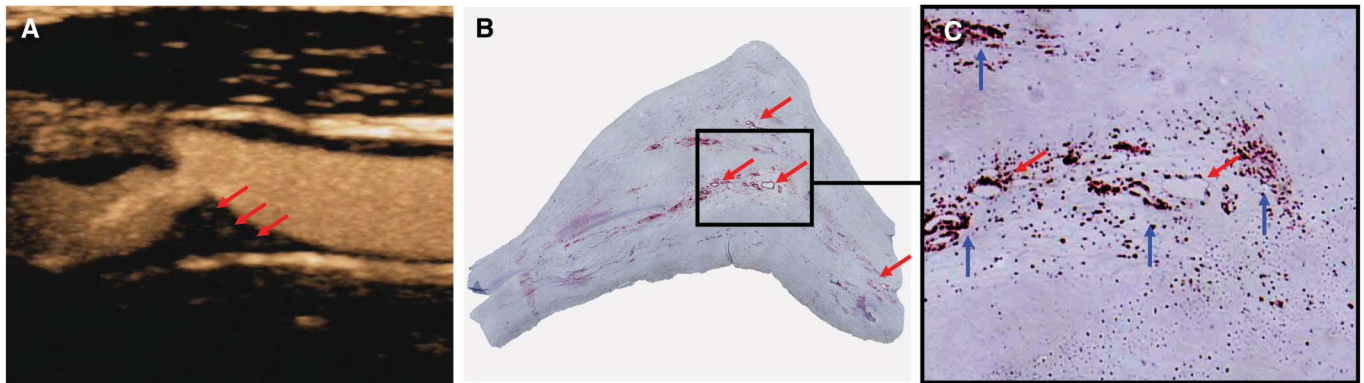


Contrast-enhanced ultrasound and detection of carotid plaque neovascularization

Figure Contrast-enhanced ultrasound



Contrast-enhanced ultrasound (US) reveals plaque neovascularization marked by red arrows (A). Immunohistochemistry of the same carotid plaque after carotid endarterectomy, corresponding to the US findings, shows extensive plaque neovascularization marked by red arrows (B). Neovascularization (red arrows) is associated with dense macrophage infiltration (blue arrows) (C).

A 62-year-old man was admitted after recurrent transient left-sided weakness and sensory loss. Ultrasound (US) examination revealed a 70% narrowing of the right proximal internal carotid artery (ICA). Contrast-enhanced US suggested plaque neovascularization (figure, A). Carotid endarterectomy of the right ICA was performed. Immunohistochemistry of the specimen showed, corresponding to the US findings, extensive plaque neovascularization associated with dense macrophage infiltration (figure, B, C). Plaque neovascularization is associated with inflammation and plaque progression.¹ The detection of plaque neovascularization by contrast-enhanced US could give further evidence of plaque vulnerability, but further study is needed to determine its value.

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