Bioactive coil

There has been an exponential growth in the endovascular treatment of intracranial aneurysms over the past three decades and it is now the primary mode of treatment in the cerebrovascular community. Despite the proven safety and efficacy of bare platinum coils, criticism of the durability of endovascular coiling with respect to traditional open surgical clipping persists. In order to overcome this criticism, several newer generations of coils have been introduced with the purpose of enhancing the durability of the initial endovascular treatment. These 'bioactive' coils have an additional material [polyglycolic acid (PGA), polyglycolic/polylactic acid (PGLA), or hydrogel)] added to the bare platinum coil in order to induce an inflammatory response and/or increase packing density within the aneurysm. While comparable safety profiles have been proven, a review of the multiple trials and clinical series published on this topic provides no clear evidence to suggest that the current bioactive coil iterations provide any sustained benefit over bare platinum coils [1)].

1)
Vance A, Welch BG. The utility of bioactive coils in the embolization of aneurysms. Neurol Res. 2014 Apr;36(4):356-62. doi: 10.1179/1743132814Y.0000000320. Epub 2014 Feb 20. PubMed PMID: 24617937.