

Commentary—arteritis in Western surgical practice

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Arteritis is defined as inflammation of the arterial wall and may result in arterial occlusion, aneurysm formation, or haemorrhage. The nomenclature and classification of arteritis is complex and confused. From a surgical perspective, however, the most useful classification is based on the size of the involved artery (box 1). The commonest large artery arteritides encountered in Western surgical practice are giant cell arteritis (GCA) and radiation induced arteritis. GCA may present to the ophthalmic surgeon with visual disturbance or to the vascular surgeon with aneurysms or stenoses of the aorta or its main branches. While I would agree with Ehrenfeld *et al* that it is not cost effective to screen patients presenting with aortic aneurysms for GCA, it is important that vascular surgeons are alert to the association of GCA with aortic aneurysm (particularly thoracic). This is because surgical reconstruction in the acute phase of GCA without steroid cover has a high failure rate. Although radiation induced arteritis can lead to aneurysm formation, it most frequently leads to arterial occlusion. Thus carotid and subclavian artery occlusion is well described after neck or axillary irradiation for the treatment of head and neck or breast cancer and gut ischaemia is a well recognised complication of abdominal radiotherapy.

Polyarteritis nodosa may present to the gastrointestinal surgeon with visceral ischaemia manifesting as appendicitis, cholecystitis, or intestinal perforation. Although Kawasaki disease is most common in Japanese children, it is increasingly recognised in Western practice. Cardiac surgeons may need to treat children with the cardiac manifestations of Kawasaki disease and vascular surgeons may need to deal with aneurysms involving the aorta, iliac, axillary, brachial, mesenteric, or renal arteries. Drug abuse arteritis is seen in two contexts. First, a necrotising arteritis specifically associated with intravenous metamphetamine or cocaine and second, arterial obstruction caused by either inadvertent intra-arterial injection of drugs that are toxic to arteries or intra-arterial injection of incompletely dissolved drugs that are intended for oral use. Patients in this latter group are particularly difficult to treat. Behçet's disease can rarely lead to aneurysm formation, most commonly the abdominal aorta. These aneurysms are particularly difficult to treat and are the commonest cause of death in Behçet's disease. Cogan's

Box 1: Arteritides of potential surgical importance

Large artery arteritis

- Giant cell arteritis
- Takayasu's disease
- Radiation induced damage

Medium sized artery arteritis

- Polyarteritis nodosa
- Kawasaki disease
- Drug abuse arteritis
- Behçet's disease
- Cogan's syndrome

Small artery arteritis

- Wegener's granulomatosis
- Microscopic polyangiitis
- Henoch-Schönlein purpura
- Essential cryoglobulinaemic vasculitis
- Arteritides of connective tissue disease

"Large arteries" are the aorta and its largest branches, "medium arteries" are the visceral arteries, and "small arteries" are distal arterial radicals that connect with arterioles.

disease consists of interstitial keratitis, deafness, and arteritis that may affect the aortic valve or mesenteric circulation. Aortic valve replacement or mesenteric revascularisation may be required.

Although the small vessel arteritides do not usually present primarily to surgeons, Wegener's granulomatosis may present to ear, nose, and throat surgeons and patients with Henoch-Schönlein purpura may present to abdominal surgeons with abdominal pain. Some of the small vessel arteritides may lead to digital ischaemia and although the advice of a vascular surgeon may be sought, the mainstay of treatment is steroids or other immunosuppressive agents. It is important to note that in up to 50% of patients with connective tissue disease and leg ulcers, the leg ulcers are caused by treatable venous disease rather than an associated arteritis.

In conclusion, although arteritis is not commonly seen in Western surgical practice, it is important that surgeons keep the possibility of an underlying arteritis in mind because surgical treatment in the absence of appropriate medical therapy will lead to poor outcomes.

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