

GENERAL
SURGERY

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Elective Report

Vascular conditions is a termed used to refer to diseases and pathologies that affect blood vessels throughout the human body. It is often hard to diagnose as initially there may be very few symptoms however the consequences of having vascular disease is often serious ultimately leading to organ damage/death or disabilities due to need for amputations.

Cardiovascular disease is one of the most commonest seen through the world and has been a leading cause of death since 1970s (1). In 2008, 30% of all global death were attributed to cardiovascular diseases and in fact in the UK, cardiovascular disease is the most common cause of mortality.

Vascular disease also carries a high risk of disability and is currently the second most common cause of disability in the UK. Limb ischemia is the most severe form of Arterial disease and if not diagnosed/treated early can often lead to amputation due to gangrene/ulceration. A study by Marson et al found that there was a 34% chance a patient would require an amputation within one year if they suffered from critical ischemia and this fell to 15% for moderate ischemia as defined by their Ankle-Brachial pressure index (5).

The severity of vascular disease can often be hard to predict, however their relationships to certain risk factors can be a great indicator of disease progression. In the UK vascular diseases are seen more commonly in the elderly with 19% being seen in the over 70s (2) whilst only 2.5% is seen in under50s.

There is wide variety of vascular conditions ranging from ulcers in the leg to aortic aneurisms. Although the prevalence of conditions are not too dissimilar to inner London, what I found was that there was variation in the risk factors of patients from these two areas.

In surrey the patients are of a Caucasian background and I found they were mainly elderly who had several cardiovascular risks such as hypertension fitting the classic picture of vascular problem being a diseased of the elderly mainly. However in inner London the patients varied with many different ethnicities . In East London the patients are from a primarily south Asian origin and therefore their risk factor are primarily underlying diabetes and therefore there is a greater incidence of renal failure as well as myocardial infarctions/strokes. These patients often present earlier with vascular problems and foot ulcers secondary to diabetes is common.

Failure to adequately treat vascular diseases early can result in more serious cardiovascular problems such as heart attacks and strokes. Furthermore because of the difficulty in diagnosing vascular disease early on, there has been a greater focus on reducing risk factors in order to prevent end stage damage. Although successful treatment is possible for most conditions, lately there has been a greater emphasis for prevention by educating people about

risk factors and providing support in reducing them (4). This includes offering smoking cessation, education about ideal BMI's and healthy diets, yearly screening for hypertension at GPs, the need for daily exercise and limiting alcohol to recommended unit consumptions a day. This has helped in reducing mortality as a whole, however it still a leading cause of death and will continue to be so with an every growing elderly population.

Due to the wide range of organs that vascular diseases can affect as well the demographic of the typical vascular patient (elderly, living on their own), a multidisciplinary approach is adopted which consists of surgeons, cardiologists as well as radiologists. There are also specialists nurses in community who help to reduce the need for hospital visits. There are also social workers and occupational therapists to help patients at home should they find their mobility being affected as well as regular reviews by health care professionals to assess the progress of disease. Vascular disease is actively treat both on primary level at GPs (reviews, diabetic foot exams) as well as in secondary for emergency cases such as Aortic aneurysms.

This is to ensure that there is comprehensive treatment of the disease in all parts of peripheral systems (carotid, abdominal, renal, and upper and lower extremities) with treatment ranging from lifestyle changes to surgical interventions restoring blood flow or repairing damaged blood vessels.

Critical limb ischemia is a serious complication of peripheral vascular disease that I saw during my placement. It occurs when there is a severe restriction in blood flow to the limbs. Patients present with pain that occurs when resting and at night. The skin also be pale, dry and shiny. The limbs can feel cold to touch as well as become bluish/black when blood flow is severely restricted for a large duration. There can be signs of muscle wasting as well as a history of ulcers that take a long time to heal. It is diagnosed primarily through ankle brachial pressure index (ABPI), with a score <0.5 being severe (5). Further tests include an ultrasound scan or angiogram with CT/MRI to locate sites of blockage. Treatment is via angioplasty or a bypass graft. This is often coupled with lifestyle changes and antihypertensive/ statins. If surgery is unsuccessful, then a patient may require amputation. Currently 1/4 patients die as a result of complications from critical limb ischemia, mainly infection (2).

Another condition I saw during my placement was Abdominal Aortic Aneurysms (AAA). This when there is weakness in the aortic blood vessel wall, leading to bulging of the blood vessel. Due to the inherent weakness, there is risk of rupture, leading to internal bleeding. 80% of patients with a ruptured aortic aneurysm die as a result of this and so this is considered medical emergency. Unruptured aortic aneurysm often presents with non-specific symptoms such as back pain, dizziness or tachycardia and therefore is difficult to diagnose. Diagnosis is often incidental and done primarily through a clinical examination of the abdomen. An ultrasound scan is often used to confirm the presence of a AAA (3). The two main forms of treatment include, observation or surgical intervention. This is determined by the size of the aneurysm whereby aneurysm $<5\text{cm}$ is observed and $>5.5\text{cm}$ surgically treated via placement of a graft.

Reflection

I believe what I got most out of this placement was confidence, not just in my abilities in clinical procedures or taking histories, but confidence in my ability to handle tough situations/unfamiliar situations. My greatest fear about becoming an fl was whether I'd be able to keep up with the workload, going from being a medical student to a doctor and having other medical professions rely on me as part of a team to achieve effective management of patients.

As time went on in my elective, I found that although I was quite stressed I was able to cope well on my own. That I had in fact developed the skills needed to adjust and react to unfamiliar situations as well as be rest assured that there was always help available from seniors if I just asked someone when I needed it. This helped me feel more comfortable in my abilities and skills as well help me realise areas where I could improve. Towards the end of my placement, I found that I could handle situations which I had previously not felt I could have done, as well as tackle situations on my own first without running for help straight away.

References

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