Diagnosing vascular diseases in our community - patient's complaints and doctor's constraints

Gabriel U. CHIANAKWANA
Department of surgery,
NNnamdi Azikiwe University Teaching Hospital,
Nnewi, Anambra State, Nigeria and Gabro Specialist Hospital, Nnewi, Anambra State, Nigeria.
Correspondence: P.O. Box 2366, nnewi, anambra State, Nigeria.
E.mail : gchianakwana@yahoo.com

Abstract

Background: Contrary to previously held belief, vascular diseases are not rare in our community. What is truly rare is our ability to pick them up when they present. Aims and Objectives: To study the cases of vascular diseases seen in our center, with a view to seeing how the diagnosis was made and how we can improve our diagnostic acumen.

Design: Retrospective study.
Settings: Nnamdi Azikiwe University Teaching Hospital, Nnewi Nigeria, a tertiary institution, and Gabro Specialist Hospital, Nnewi Nigeria, a private hospital, both health establishments serving rural, semi-urban and urban communities.
Patients and Methods: Every patient who had a working diagnosis of any form of vascular disease, excluding trauma cases, from 1st June 2001 to 15th December 2004, was included in this study.

Results: Two hundred and one patients were identified. One hundred and three patients had varicose veins. Forty-four had deep vein thrombosis, 31 had peripheral arterial disease, 17 had different forms of vascular malformations and six had aneurysms. Most of the patients who were advised to do angiography or venography complained that they could not afford the high cost of the investigation in other centers. Our institution at that time did not have facilities for angiography. The diagnosis was made at post-mortem in two patients.

Conclusions: With the exception of varicose veins, the index of suspicion for other vascular diseases is still very low in our community. In those patients in whom the diagnosis is highly suspected, diagnostic facilities are not readily available to confirm diagnosis or to assess the full extent of the disease. This is a big constraint. Patient's poverty and the absence of any form of social welfare package in our community is another big constraint. A high index of suspicion amongst doctors, coupled with the availability of reliable diagnostic tools, and a functional national health insurance scheme will certainly reduce patients' complaints and doctors' constraints and improve the care of patients with vascular diseases in our community.

Keywords : Diagnosing-vascular diseases-complaints-constraints.

Introduction

Most doctors in our community have, for a very long time now, held the belief that vascular disease is a disease of the western world and is not a problem for blacks.1 This most probably must have influenced hospital policy makers, amongst whom are medical doctors, in playing down on the importance of provision of adequate diagnostic tools for vascular diseases in most government hospitals.

In times past, most blacks in our community maintained the life-style they inherited from their forefathers. With the world now becoming a global village, and because of the desire to belong to the 'elite' class, blacks in our community are fast adopting western life-style. As a result of this, they now indulge, more than ever before, in smoking and in the unrestrained consumption of animal fat. Diabetics and patients with obesity and atherosclerosis abound in our community.1 This scenario is further worsened by an alarming degree of sedentary life now creeping in amongst the affluent in our society who sadly have little or no provision for a structured daily physical exercise program. Although the disease-state of our patients is now changing in our community, to include western pattern of diseases, most health-care providers appear to be still holding on to the past and still have a low index of suspicion for vascular diseases in blacks. Some tertiary institutions still lack the basic tools for investigating vascular diseases. This worrisome state of affairs prompted this study.

Patients and Methods

Patients who presented with clinical features of vascular diseases in our center (excluding trauma cases) between 15th June 2001 and 15th December 2004 (a three and half-year period) were studied. They were first identified from the ward and theatre records and their cases notes were retrieved from the Medical Records department. From each case note, the following data were extracted: age, sex, symptoms, signs, investigations, and diagnosis.

Results

Two hundred and one patients were studied. Their ages ranged from 14 to 78 years, with a mean of 55 years

Table I. Ages of patients

Ages in years	Number of patients	Percentage
10 - 19	1	0.5%
20 - 29	3	1.5%
30 - 39	2	1.0%
40 - 49	26	12.9%
50 - 59	68	33.8%
60 - 69	92	45.8%
70 - 79	9	4.5%
Total	201	100.0%

One hundred and twenty-one were males and 80 were females, giving a male : female ratio of 1.5 : 1. As shown in

Table II. Symptoms of vascular diseases that the patients presented with

Symptoms	Number of patients
Prominent veins in the lower limb (with or without an ulcer)	103
Pain in calf on walking (claudication)	64
Rest pain	3
Fever	11
Paraesthesia	32
Chest pain	2
Back pain	2
Abdominal discomfort	1
Discoloration of skin/Painless skin swellings	17

most of the patients presented mainly with prominent veins in the lower limb (with or without an ulcer), pain in the lower limb, or paraesthesia of the lower limb. The signs were mainly those of varicosities in the lower limbs, pedal oedema (with or without dermatitis), calf tenderness or decreased distal arterial pulsation

Table III. Signs of vascular diseases that the patients presented with

Signs	Number of patients
Varicosities in the lower limb (with or without varicose ulcer)	103
Pedal oedema (with or without dermatitis)	77
Tenderness in calf	48
Decreased distal arterial pulsation	22
Absent arterial pulsation	3
Shiny toes	16
Toe ulcers	5

The investigations that were done included abdomino-pelvic ultrasonography in 97 patients, angiography in only three patients, chest radiograph in two patients, and barium meal in one patients who had features of peptic ulcer disease but who turned out at post-mortem to have had thoracic aortic aneurysm (Table IV). Forty-four patients had deep vein thrombosis, 31 had peripheral arterial disease, 17 had different forms of vascular malformations (15 capillary haemangiomas and two cavernous haemangiomas) and six had aortic aneurysms (Table V). The youngest patient in this study, a 14-year old boy, had cavernous haemangioma of the left hand. The diagnosis of thoracic aortic aneurysm was made at post-mortem in two patients. These two cases have previously been

reported.1 Concerning the remaining four cases of aortic aneurysms, the only diagnostic tool available was abdomino-pelvic ultrasound which confirmed the diagnosis. All the cases of deep vein thrombosis in this study occurred in the surgical and medical wards. They were diagnosed purely on clinical grounds. There were no investigations to confirm the diagnosis or to assess the extent of the disease.

Table IV . Investigations carried out in the patients with vascular diseases

Investigations	Number of patients	Percentage
Abdomino-pelvic ultrasonography	97	48.3%
Angiography	3	1.5%
Chest radiograph	2	1.0%
Radiograph of tibio -fibula	13	6.5%
Barium meal	1	0.5%
Haemoglobin estimation	201	100.0%
Urinalysis	201	100.0%

Table V . Various vascular diseases that were diagnosed

Disease	Number of patients	Percentage
Varicose veins (with or without ulcers)	103	51.2%
Deep vein thrombosis	44	21.9%
Peripheral arterial dise ase	31	15.4%
Vascular malformations	17	8.5%
Aortic aneurysms	6	3.0%
Total	201	100.0

Discussion

This study reveals that much needs to be done to sharpen the diagnosis of vascular diseases in our community. By and large, the diagnoses were clinical and lacked the essential support of investigative tools such as angiography, ultrasound especially helical computed tomography (CT)-scan2, and CT-scan with measuring angiogram1. Occasionally magnetic resonance imaging (MRI) may be indicated.

Because aortic aneurysm is an asymptomatic but potentially fatal condition3, the index of suspicion needs to be high. Indeed the two cases of thoracic aortic aneurysms had all the features of aneurysms but the diagnosis was missed until the aneurysms ruptured and the patients died. The diagnosis was then made in the post-mortem room.1 When they are dissecting, aneurysms are almost always symptomatic4. In their study, Puech-Leao et al3 detected 60 aneurysms by palpation but only 20 of these were confirmed by ultrasound. They also noted that, conversely, 41 of the ultrasound-detected aneurysms were not palpable. The lesson to be learnt here is that, no matter how good our clinical skills are, we may still need the support of investigative tools.

Most of the patients in our series were in the 6th and 7th decades of life. This finding agrees with that of Hirsch et al5 that most of the patients with vascular diseases are older. Only three of our patients had rest pain suggesting critical leg ischaemia. This is similar to the findings of Halperin6 in whose series only 1% of patients had critical leg ischaemia (rest pain or gangrene). In their study, Hirsch et al5 noted that awareness of peripheral arterial disease was also low in their community, resulting in low standards of medical care. Similar to the findings by McDermott et al7, some of our patients with peripheral arterial disease were asymptomatic. Peripheral arterial disease is associated with significant morbidity and can negatively affect quality of life8. Port wine stains (capillary vascular malformations, also known as capillary haemangiomas) represent the most common type of vascular malformation in our series and in the series by Lam and William9

The complaints by patients concerning high cost of investigations are real. Some patients are just too poor that they cannot afford the cost of angiography, only 1.5% being able to afford it in our series. Because of poverty, coupled with illiteracy, some patients tend to manage at home until the condition becomes quite advanced as in the three cases that presented with absent pulsation in the distal arteries, and rest pain.

To improve the diagnostic acumen of vascular diseases in our community, which, by and large, represents the average African setting, the following recommendations may be useful:

More doctors should be exposed to the management of vascular diseases during the course of their residency training. This would raise their awareness of the common vascular diseases in their environment. Government and private health institutions should endeavour to provide the basic tools for diagnosing vascular diseases. There should be an honest commitment towards providing the citizenry with a workable national health insurance scheme so that indigent patients can still get quality healthcare. Screening programs for vascular diseases will ultimately improve the quality of life of our patients.10

References

1. **Chianakwana G. U., Odike M. A. C., Nwofor A. M .E.** Problems and Prospects of managing Thoracic Aortic Aneurysm at the Nnamdi Azikiwe University Teaching Hospital, Nnewi Nigeria. World J. Surg. 2004; 28: 288-290.

2. **Fukuhara R., Ishiguchi T., Ikeda M., Ota T., Takai K., Satake H., Ishigaki T.** Evaluation of abdominal aortic aneurysm for endovascular stent-grafting with volume-rendered CT images of vessel lumen and thrombus. Radiat Med. 2004; 22(5): 332-41.

3. **Puech-Leao P., Molnar L. J., Oliveira I. R., Cerri G. G.** Prevalence of abdominal aortic aneurysms - a screening program in Sao Paulo, Brazil. Sao Paulo Med J. 2004; 122(4): 158-60.

4. **Robles C., Malaret G.** Experience of aortic aneurysms in the cardiovascular center of Puerto Rico and the Caribbean (1992 through 1997). Bol Assoc Med P R. 2004; 96(1): 45-50.

5. **Hirsch A. T., Halverson S. L., Treat-Jacobson D., Hotvedt P. S., Lunzer M. M., Krook S., Rajala S., Hunninghake D. B.** The Minnesota Regional Peripheral Arterial Disease Screening Program: toward a definition of community standards of care. Vasc Med. 2001; 6(2): 87-96.

6. **Halperin J. L.** Evaluation of patients with peripheral vascular disease. Thromb Res. 2002; 106(6): 303-11.

7. **McDermott M. M., Greenland P., Liu K., Guralnik J. M., Criqui M. H., Dolan N. C., Chan C., Celtic L., Pearce W. H., Schneider J. R., Sharma L., Clark E., Gibson D., Martin G. J.** Leg symptoms in peripheral arterial disease: associated clinical characteristics and functional impairment. JAMA. 2001; 286(13): 1599-606.

8. **Olson K. W., Treat-Jacobson D.** Symptoms of peripheral arterial disease: a critical review. J Vasc Nurs. 2004; 22(3): 72-7.

9. **Lam S. M., William E. F. 3rd.** Practical considerations in the treatment of capillary vascular malformations, or port wine stains. Facial Plast Surg. 2004; 20(1): 71-6.

10. **Spencer C. A., Norman P. E., Jamrozik K., Tuohy R., Lawrence-Brown M.** Is screening for abdominal aortic aneurysm bad for your health and well-being? ANZ J Surg. 2004; 74(12): 1069-75.