Abdominal Aortic Aneurysm—The African Experience

About one-third of the whole world’s disease burden is due to surgical conditions. Globally, in 2010, there were 52.8 million deaths. Deaths from non-communicable diseases including surgical conditions increased by close to 8 million people between 1990 and 2010. This represents two out of every three deaths globally.[1-3] Despite this high global mortality rate, there has been improvement in global health. However, mortality from non-communicable diseases and surgical conditions including abdominal aortic aneurysm (AAA) remains high in low- and middle-income countries in Africa.[1] The general worsening epidemiological pattern of non-communicable diseases in Africa notwithstanding, huge regional variations exist when comparing data from high-income and middle/low-income countries. This may partly be due to the slow progress in the expansion of health facilities and underdevelopment of safe surgical and anaesthesia specialty.[1]

AAA is a surgical condition associated with high morbidity and mortality even in the high-income countries. In this issue of the journal, Ngetich et al. in a systematic review of AAA in Africa have reported a prevalence of between 0.7% and 6.4%, with a wide age range and most of the patients being male. Most cases were identified incidentally, and about one-third presented with rupture. AAA rupture in particular is associated with very high mortality, 50% or more.[4] The etiology of AAA is mainly degenerative, which reflects in its age predilection among those above 70 years, particularly in high-income countries.[1] AAA found in younger people is mainly due to infective causes, especially human immunodeficiency virus (HIV), another global disease with a high prevalence in Africa.[6-10] Despite the increasing life expectancy in Africa, the high burden of HIV and other infectious diseases may account for the high prevalence of aortic aneurysm among young people in Africa.[11-13] Other known risk factors are smoking, hypertension, and hyperlipidemia.[10]

Even though some literature suggests a decline in ruptured AAA admission, emergency AAA repair, and AAA mortality across all age groups in some developed countries,[14,15] the reverse is true in developing countries.[16,17]

Data on the prevalence of AAA in Africa are scanty. The paucity of data is predominantly a problem in West and East Africa. Relatively, a lot of work with respect to AAA has been done in northern and southern African countries. There are also no screening services for AAA available in Africa for high-risk populations. Until recently (after 2015), there were no trained specialist vascular surgeons available in West and East Africa even though northern and southern African countries have had trained and skilled vascular surgeons for over two decades.

This regional heterogeneity, coupled with limited access to and disproportionate distribution of health facilities, and unavailable or poor national health insurance schemes to make treatment accessible and affordable, calls for a concerted effort in the subregion geared towards more research focused on AAA in particular to inform health policy modification to combat this emerging menace.

Unfortunately, infectious diseases (communicable diseases) still account for the highest proportion of annual all-cause mortality in sub-Saharan Africa.[1] This impedes attempts at health policy transition in favour of non-communicable diseases in terms of research funding, manpower training and personnel specialization, and adequate provision of health facilities and equipment. To contain and curb the rising burden of AAA in Africa, there is the need for sound epidemiological assessment through research to determine the true prevalence of AAA in Africa and find the reasons accounting for the regional variation in the prevalence and the relatively higher

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mortality of AAA in the continent. It is also necessary to identify high-risk populations with the aim of instituting screening services for such groups and initiate health policy debate to redirect governments’ attention to and support for dealing with this deadly disease.

In the meantime, health personnel education on AAA to raise awareness, and development of diagnostic algorithms and treatment protocols may facilitate prompt and accurate diagnosis of patients with AAA. Accelerated national drive to select and train specialists, and cost-effective and timely treatment of AAA with deployment of safer and newer alternative surgical remedies are highly recommended.

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References
1. Lozano R, Naghavi M, Foreman K, Lim S, Shibuya K, Aboyans V, et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: A systematic analysis for the global burden of disease study 2010. Lancet 2012;380:2095-128.
2. The Lancet Commission on Global Surgery [Internet]. [Cited 2020 Feb 8]. Available from: https://www.lancetglobalsurgery.org/.
3. EVAR Trial Participants. Endovascular aneurysm repair versus open repair in patients with abdominal aortic aneurysm (EVAR trial 1): Randomised controlled trial. Lancet 2005;365:2179-86.
4. Harris LM, Faggioli GL, Fiedler R, Curl GR, Ricotta JJ. Ruptured abdominal aortic aneurysms: Factors affecting mortality rates. J Vasc Surg 1991;14:812-8; discussion 819-20.
5. Sampson UKA, Norman PE, Fowkes FGR, Aboyans V, Song Y, Harrell FE, et al. Estimation of global and regional incidence and prevalence of abdominal aortic aneurysms 1990 to 2010. Glob Heart 2014;9:159-70. Available from: http://www.elsevier.com/wps/find/journaldescription.cws_home/726194/description#description.
6. Gouda HN, Charlson F, Sorsdahl K, Ahmadzada S, Ferrari AJ, Erskine H, et al. Burden of non-communicable diseases in sub-Saharan Africa, 1990–2017: Results from the Global Burden of Disease Study 2017. Lancet Glob Heal 2019;7:e1375-87. Available from: www.thelancet.com/lancetclub.
7. Kharsany AB, Karim QA. HIV infection and AIDS in sub-Saharan Africa: Current status, challenges and opportunities. Open AIDS J 2016;10: 34-48.
8. Marks C, Kusov S. Pattern of arterial aneurysms in acquired immunodeficiency disease. World J Surg 1995;19:127-32.
9. Demopoulos D, Henderson W, Technov K, Gilliers AM. Vasculopathy in HIV-infected children—A case series. South Afr J Child Health 2009;3:27-30. Available from: http://www.sajch.org.za/index.php/SAJCH/article/viewFile/140/110
10. Forsdahl SH, Singh K, Solberg S, Jacobsen BK. Risk factors for abdominal aortic aneurysms: A 7-year prospective study: The Tromso Study, 1994–2001. Circulation 2009;119:2202-8. Available from: http://www.ncbi.nlm.nih.gov/pubmed/19364978
11. Kushitor MK, Boatemaa S. The double burden of disease and the challenge of health access: Evidence from access, bottlenecks, cost and equity facility survey in Ghana. PLoS One 2018;13:e0194677. doi:10.1371/journal.pone.0194677.
12. Hamid S, Groot W, Pavlova M. Trends in cardiovascular diseases and associated risks in sub-Saharan Africa: A review of the evidence for Ghana, Nigeria, South Africa, Sudan and Tanzania. Aging Male 2019;22:169-76.
13. Ogeng’o JA, Olabu BO, Kilonzi JP. Pattern of aortic aneurysms in an African country. J Thorac Cardiovasc Surg 2010;140:797-800.
14. Svensjö S, Björck M, Gurtelschmid M, Djavani Gidlund K, Hellberg A, Wanhainen A. Low prevalence of abdominal aortic aneurysm among 65-year-old Swedish men indicates a change in the epidemiology of the disease. Circulation 2011;124:1118-23.
15. Lederle FA. The rise and fall of abdominal aortic aneurysm. Circulation 2011;124:1097-9.
16. Choke E, Vijayanagar B, Thompson J, Nasim A, Bown MJ, Sayers RD. Changing epidemiology of abdominal aortic aneurysms in England and Wales: Older and more benign? Circulation 2012;125:1617-25.
17. Sule AJ, Aridil B, Ojo EO. Abdominal aortic aneurysm and the challenges of management in a developing country: A review of three cases. Ann Afr Med 2012;11:176-81.