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EDITORIAL

CARDIAC INTERVENTION IN ETHIOPIA TAKES A BIG STEP FORWARD

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In this issue of EMJ is reported the results of open heart surgery by the cardiac surgery, pediatric and adult cardiology, cardiac anesthesia, and perfusion teams from the Cardiac Center of Ethiopia (1). The team successfully excised a discrete sub-aortic membrane from a young child with symptomatic sub-aortic stenosis. The procedure safely and successfully restored function, and the child was able to return home after a five-day hospitalization. Sub-aortic stenosis is not one of the more common conditions in the country requiring surgery, nor is the first open heart case performed by Ethiopian surgeons. However, the article is noteworthy in how much it reflects the extraordinary progress made in Ethiopia in heart surgery and other cardiac interventions.

Cardiovascular diseases in the country have been traditionally dominated by valvular diseases, most commonly secondary to rheumatic fever, still estimated to affect 1-3% of school aged children, and congenital heart disease, estimated to effect 1% of all births. Hypertensive and ischemic heart disease currently account for less burden, but these may be anticipated to increase in the future, given the rising incidence of hypertension and diabetes in the country (2). Not surprisingly the need for development of surgical and other interventional capacity has long been advocated.

The Cardiac Center, located on the premises of Tikur Anbessa Specialized Hospital (TASH) in Addis Ababa had its origins in the Children's Heart Fund of Ethiopia, an initiative by Dr. Belay Abegaz some 30 years ago and dedicated to provide funds enabling young children to receive life-saving surgery in cardiac facilities abroad (3). The Cardiac Center itself was equipped and finished in 2009 but until recently required rotating teams of foreign specialists to perform the surgeries (4,5). Meanwhile there have been additional initiatives within TASH itself, as well as elsewhere within the country. These included procedural advances in open heart surgery by the late Professor Asrat Woldeyes such as open mitral valvulotomies, closed heart surgeries such as patent ductus arteriosus ligations and pericardiectomies, the development of a catheterization lab at TASH as well as in private settings, additional procedures such as implantable cardioverter defibrillator and pacemaker placement now available in private settings in the country (6), and new capacity under development at Jimma and Mekele University hospitals. Numerous training initiatives to provide local physicians needed skills have been undertaken in collaboration with foreign institutions over the years. More recently, local training programs are now available; Ababa University has introduced sub-specialty training in adult cardiology, pediatric cardiology and cardiothoracic surgery. Despite these gains, demand for interventional services far exceeds capacity. Even now some 6000 patients are registered at TASH, awaiting surgery. In response to these needs, the Ministry of Health has recently announced plans for a seven floor, state of the art cardiac care institution adjacent to TASH.

The increasing availability of interventional options for cardiovascular disease is impressive progress; however, such procedures are costly and not easily affordable by most, and many patients will likely depend on continued international aid and other donations in the future. While intervention is the only option for congenital diseases and for those with advanced disease, early diagnosis and prevention strategies will likely play an increasingly important role for many cardiovascular diseases. Rheumatic heart disease secondary to streptococcal pharyngitis is the major etiology behind valvular disease at present (1), and programs have been initiated to coordinate improved management at the primary care level. These kinds of initiatives will be crucial to be keep cardiovascular disease at manageable levels. The prevalence of hypertension and diabetes have increased dramatically over the past several decades, now approaching that of fully industrialized nations. Given the lag between diagnosis of these two diseases and the emergence of associated cardiovascular complications can be one or more decades, the full burden of their cardiovascular complications will almost certainly increase substantially in the future, probably exceeding significantly that of congenital and valvular diseases in Ethiopia. Prevention, screening and management at the primary care level needs to be improved.

Two features stand-out regarding these developments: i) whatever the current limitations, it is extraordinarily impressive that such a range of services are available in the country, and ii) it took a really long time to get this far. Starting from the second point, together with an understanding of cardiovascular disease, it readily follows that progress has not come easily, but it never was going to be easy, and undoubtedly there are many important lessons to be learned from the collective experience of all involved. One salient aspect of medicine in Ethiopia, as well as Sub-Saharan Africa, is the widespread

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influence of public health organizations such as World health Organization (WHO) which have emphasized affordable, simplified approaches. Though such approaches have been extraordinarily effective, they are not intended for situations where interventions require higher technology, skills, and costs, of which cardiovascular surgery is one striking example. For such endeavors, there are no guidelines, no milestones, no avenues for realistic training, no paths for funding. Even more insidiously, health care practitioners and public health officials in the era of W.H.O. influence, may naturally attempt to apply the well-known principals of the WHO template towards a problem which may not ultimately be solvable with such a template. For example, in the program to roll-out ART for HIV, at higher levels of management, the problem was largely reduced to one of administration of well-known and worked out guidelines, mainly because support staff could be easily trained in patient management, and funding was widely available. In contrast, the set of skills required to learn and maintain a more complex intervention, such as that of cardiovascular surgery, is vast by comparison, and can only realistically be achieved within an existing sophisticated and sustainable infrastructure which includes reliable funding sources. At higher management levels, organizing the development and maintenance of such a program becomes infinitely more complex, and hardly one solvable by prior W.H.O. like administrative strategies. In the absence of reliable external guidance, nascent programs are largely left to fend for themselves, and heartwarming success stories notwithstanding, are at risk for an endless series of false starts, dead ends, divergent opinions on the way forward, conflicts of personal and professional gain, as well as the ever-present impact of politics in its many guises. In fact, this scenario is reminiscent of HIV care in the U.S. in the confusing pre-ART era in the 1980s and 1990s. The important point is that facing and working through these inevitable challenges of health care delivery is the price one must pay if one wishes to engage in self-directed progress rather than enduring the long wait for the affordable and simple W.H.O.-like solution to conveniently present itself-if it ever does, that is.

Development of comprehensive cardiac services depends on improvements at all health care levels, primary, secondary and tertiary, and collectively poses significant challenges in the future. Still, every step taken represents a milestone achievement. It is well worth taking a pause at this moment to celebrate the remarkable progress made by cardiovascular services in the country, opening up many treatment opportunities which were unavailable locally even a few years ago. All those practitioners in the cardiovascular field, from the providers within Ethiopia to the many providing guidance and assistance outside the country, from the early and hugely influential Ethiopian pioneers to the more recent and younger graduates, should take a well-deserved bow. Even more importantly, it is imperative to share and cultivate those experiences among all participants from within and outside the country. The frank discussion of what worked and what didn't work is all part of creating a road map when there is no pre-existing one. This will be essential not only to embrace future improvements in all aspects of cardiovascular care, but to provide guidance for advances in other areas of medicine and surgery. In so doing, Ethiopia-even without intending it-will almost certainly emerge as a major leader in medical care in Sub-Saharan Africa.

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