AFROX Newsletter

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Cancer Burden in the Developing World

Cancer is set to become the newest epidemic in the developing world. It already kills more people worldwide than HIV, TB and Malaria combined. It is predicted that between 2000 and 2020 cancer rates will double to twenty million new cases per annum, seventy percent of which will occur in the developing world (Figs. 1 & 2). Currently, a cancer diagnosis in the developing world often means a painful and distressing death in most cases. The challenges posed are substantial:

- Insufficient political priority and funding amongst donor agencies and governments of developing countries that have many competing priorities;
- Fragmented and underfinanced health care systems that have not been set up for chronic disease management;
- A lack of cancer awareness, knowledge and capacity amongst health workers;
- Lack of diagnostic and treatment capacity;
- Too few effective cancer medicines that are easy to administer and do not require hospitalization;
- Weak referral systems; and
- Limited ability to counter lifestyle changes following modernization and urbanization.

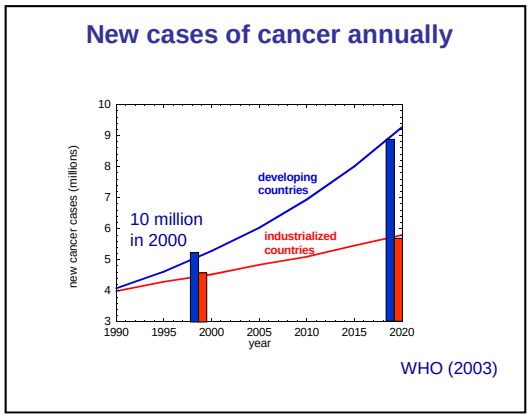

Fig 1. WHO projection of global increase in rates of new cancers.

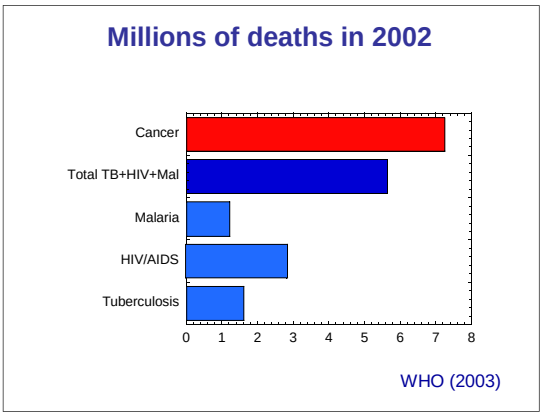

Fig 2. WHO estimate of global mortality 2002.

The African Cancer Reform Conference, held in London in May 2007, brought together 23 African countries (represented by either their Minister of Health, their representatives or nationally leading oncologists), cancer related charities and organisations, international leaders in the oncology community, African doctors, the pharmaceutical industry, WHO, The World Bank, The African Development Bank and members of the UK Parliament (www.afrox.org). This meeting had the following aims:

- Determine the degree of priority cancer is afforded in national programmes in Africa;
- Determine the most affordable and effective components of cancer control; and
- Decide on a clear implementation strategy for establishing these programmes in African countries.

This meeting resulted in the London Declaration (www.afrox.org), calling on the international community to recognise the impending cancer crisis in the developing world and to work with African partners to coordinate the development of affordable and sustainable national cancer control plans. The Africa-Oxford Cancer Consortium (AfrOx) was established to help coordinate this effort.

The Africa-Oxford Cancer Consortium (AfrOx) is a new organisation which:

- Seeks to provide broad support and guidance on the design, delivery and funding of sustainable national cancer plans in Africa.
- Will facilitate educational and training efforts by the international cancer community.
- Will work with partners (governments, NGOs, pharmaceutical industry and cancer charities) to fund cancer control initiatives in Africa.

AfrOx will initially focus on six programmes

Cancer Intelligence Units

Cancer registries are vital for defining the type and number of cancers experienced by a population, assessing changes in these patterns over time, assessing the impact of any interventions associated with cancer control programmes and forming a useful framework for cancer research.

AfrOx intends to assist African Nations to set up Cancer Intelligence Units through the guidance of the International Agency for Research on Cancer (IARC).

Early Diagnosis and Prevention

Liver cancer (predominantly HepatoCellular Carcinoma, HCC) is by far the main cause of male cancer deaths in sub-Saharan Africa. The two main risk factors for HCC, chronic infection by hepatitis viruses (mainly Hepatitis B, HBV) and exposure to the dietary carcinogen aflatoxin, are well established. Effective strategies are at hand to reduce their impact. A safe and efficient HBV vaccine has been available since the early 1980s. However, WHO's records show that less than 7% of subjects in sub-Saharan Africa actually receive the HBV vaccination. In addition, simple behavioural methods to reduce aflatoxin exposure have been tested in the field, with significant improvements on individual contamination.

Cervical cancer is the most common cancer in women in sub-Saharan Africa. The vast majority of patients present with the disease far advanced and beyond the capacity of surgery or other treatment modalities (Fig. 3). Human Papillomavirus (HPV) types 16 and 18 cause 70% of cervical cancer cases and two vaccines (Gardasil and Cervarix) have been developed which guard against these HPV types. These vaccines provide us with the opportunity to eradicate 70% of all known cervical cancers within a generation, saving almost 200,000 lives per annum, the vast majority of whom live in the developing world.

Cure The Curable

Mortality to incidence ratios are much higher in Africa than in more affluent world regions and improved access to proven, cost-effective therapy, efficiently delivered would save many lives. Sustainable treatment programmes need to be built in the context of the available human resources, equipment and facilities. Ideally, each country should have at least one National Cancer Centre with access to surgery, radiation and chemotherapy. Radiation programmes might be built on models provided by the IAEA and their excellent Programme for Action on Cancer Treatment (www-naweb.iaea.org/pact/).

AfrOx will focus initially on childhood cancer, collaborating with Professor Tim Eden of the International Society of Paediatric Oncology and the newly formed World Childhood Cancer Foundation.

Palliative Care

At the African Cancer Reform Conference delegates stated that palliative care must be a priority component of affordable and effective cancer care. It should be provided as early as possible after diagnosis since it provides pain and symptom control, as well as terminal care and bereavement support. There is relatively little use of oral morphine in Africa, although it is a therapeutic mainstay in the developed world. A process of education, awareness raising with due attention paid to cultural sensitivity, will lead to its more widespread introduction.

Training and Education

AfrOx also has an important role to play in facilitating the coordination, commissioning and development of various educational activities in which our African colleagues are so keen to participate. AfrOx will develop sustainable in-country training and education programmes on a cascade model, whereby African healthcare personnel are trained not only to deliver healthcare services but also to provide initial training to others within the locality. In addition, continuing/ updating training will also be provided. Partnership with the UK National Health Service (NHS) will be crucial.

Tobacco Control

In Africa, tobacco use is estimated to be related to only 10% of deaths (lung, throat, mouth, pancreas, bladder, stomach, liver and kidney cancers) but recent evidence suggests an increase in smoking in the region, especially among young people. With the decreasing markets for the tobacco industry in the developed world, the industry is seeking new markets, such as in sub-Saharan Africa, where they see enormous potential for growth.

AfrOx will take two approaches: (1) seek a ban on tobacco advertising and (2) encourage governments to heavily tax cigarettes, which would increase government revenues and decrease the likelihood of people being able to afford cigarettes. In countries where farmers rely on growing tobacco for income, support needs to be provided to farmers to plant and distribute alternative crops.

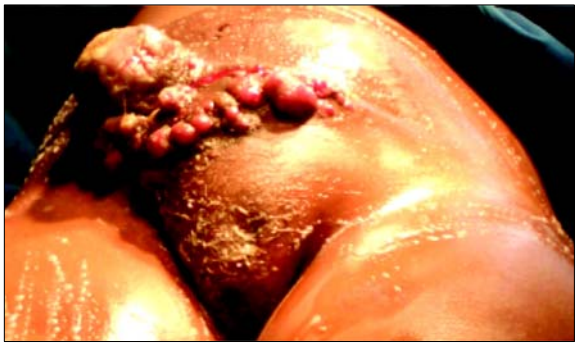

Fig 3. Cutaneous metastasis from cervical cancer (Picture taken by Dr M Pezzatini and republished by permission of Annals of Oncology).

Summary

The African Cancer Reform Conference gave a clear and positive message that the time for taking concerted action against cancer in Africa has come. Although each of the health ministries recognized the need to develop national cancer plans, they requested that these are broken down into deliverable work-streams, covering the spectrum of necessary activities and integrated into existing health plans. There are too many examples of stand alone projects that cannot be sustained. The cancer control programmes must be managed in partnerships forged between the African Health Ministries, NGOs, the pharmaceutical industry and the international cancer community.

Over the next decade, we predict that relatively modest funding of these cancer control programs of around $100 million per annum, would provide:

- Cancer intelligence on up to 250 million African citizens;
- Early cancer detection and vaccination, preventing100,000 deaths;
- A pediatric cancer treatment program, saving the lives of 5,000 children;
- Expansion of palliative care, easing the lives of some 100,000 people with terminal cancer; and
- Training of new African health care workers.

We have a chance to make an extraordinary difference and to help lay the foundations of a sustainable health care system for many African nations.

Fig 4. Photograph of some of the delegates at the African Cancer Reform Conference, London, May 2007.
Front row (left-right): Professor Mohamed Abdeen, Ministry of Health and Population, Egypt; Professor Dismand Stephan Houinato, Coordinator of Noncommunicable Disease Programme, Ministry of Health, Benin; Dr James Simpungwe, Director of Clinical Care and Diagnostic Services, Ministry of Health, Zambia; Mrs Abator Thomas, Minister of Health and Sanitation, Sierra Leone; Professor Francis Abayomi Durosinmi Etti, Ministry of Health, Nigeria; Dr Keyvoobalan Pauvaday, Principal Medical Officer, Ministry of Health, Mauritius; Professor Brahim Khalil El Gueddari, Director of the National Oncology Institute, Ministry of Health, Morocco; Dr Motloheloa Phooko, Minister of Health and Social Welfare, Lesotho.
Second row (left-right): Dr Steve Kamiza, Ministry of Health, Malawi; Professor Werner Burkart, Deputy Director General, IAEA; Dr Catherine Le Gales-Camus, Assistant Director General, Noncommunicable Diseases and Mental Health, World Heath Organization; Dr Mariatou Jallow, Director of Health Services, Health and Social Welfare Ministry, The Gambia; Dr Twalib Ngoma, Executive Director of the Ocean Road Cancer Institute, Tanzania; Dr Sano Daman, representing Burkino Faso; Professor Ernest Bellembaogo, Ministry of Public Health, Gabon; Dr Mompati Mmalane, Ministry of Heath, Botswana.
Back row (left-right): Professor Anderson Doh, Executive Secretary of the National Cancer Control Committee, Cameroon; Dr Innocent Nyaruhirira, Minister of State in charge of HIV/AIDS and Other Epidemics, Rwanda; Dr William Kofi Bosu, Ministry of Health, Ghana; Professor David Kerr, Professor of Clinical Pharmacology and Cancer Therapeutics and head of AfrOx, Oxford University; Dr Basilio Mosso Ramos, Health Minister, Cape Verde; Professor Sir John Arbuthnott, Chairman of NHS Greater Glasgow and Clyde; Unidentified as yet; Mohamed Youssouf, Lead Health Specialist, African Development Bank; Professor Paulo Ivo Garrido, Minister of Health, Mozambique; Mr Massoud Samiei, Head of PACT, IAEA.

AfrOx Founders

Professor David Kerr is Rhodes Professor of Clinical Pharmacology and Cancer Therapeutics at the Department of Clinical Pharmacology, University of Oxford. He has an international reputation for treatment of and research into colorectal cancer and he is developing new approaches to cancer treatment which involve gene therapy. He has published more than 350 articles in peer-reviewed journals and has contributed to many books on cancer. He is Editor-in-Chief of Annals of Oncology, Europe's premier medical oncology journal, and he is on the editorial broad of several other journals including Nature Clinical Practice Oncology. He was elected Fellow of he Academy of Medical Sciences in 2000, appointed Commander of the British Empire in 2002 and he was recently elected President of the European Society of Medical Oncology.

Prof Peter Boyle is a graduate of Glasgow University. Following successive appointments with the Glasgow University Department of Medicine, the West of Scotland Cancer Surveillance Unit, Harvard School of Public Health and the International Agency for Research on Cancer, in 1991 he was named Director of the Division of Epidemiology and Biostatistics at the European Institute of Oncology in Milan, Italy. He was elected Director of the International Agency for Research on Cancer (IARC/WHO) in Lyon, France and took up his position in January 2004. In the past, Peter Boyle was Director of the World Health Organization Collaborating Centre for Chronic Disease Epidemiology and a Member of the European Cancer Advisory Board.

Prof Tim Eden is the Teenage Cancer Trust Professor of Teenage & Young Adult Cancer at the University of Manchester and an Honorary Consultant in Paediatric and Adolescent Oncology. As a consultant he has combined comprehensive clinical care with a research interest in clinical trial creation, monitoring and analysis, the epidemiology and aetiology of childhood and teenage cancer, psychosocial impact of cancer and its management on young people and their families, and evidence based medicine as a member of the Cochrane Oral Health Group. He was President of The International Society of Paediatric Oncology until 2007 and has served on numerous committees. He is a founding trustee of the World Childhood Cancer Foundation providing sustainable funding for developing countries.

Dr Twalib Ngoma is an oncologist with special interest in cancer control. He trained at the Christie Hospital in Manchester and Beatson Oncology Centre in Glasgow in the 1980's and then went back to his home country, Tanzania, where he now works as the Executive Director of the Ocean Road Cancer Institute.

Sir John Arbuthnott is a microbiologist of 40 years standing. He has held University teaching positions at the Universities of Glasgow (Lecturer and Senior Lecturer), Trinity College Dublin (Professor of Microbiology) and Nottingham (Professor of Medical Microbiology). In 2000, he completed a period of 9 years as Principal and Vice-Chancellor of the University of Strathclyde in Glasgow. He has honorary degrees from several national and international universities. He was knighted in January 1998. In November 2002, he became Chairman of Greater Glasgow NHS Board, the body which runs the National Health Services in Greater Glasgow where he led a team that created a new Centre for Population Health.

Rt Hon Alan Milburn MP has been Member of Parliament for Darlington since 1992. As Chancellor of the Duchy of Lancaster (2004-5), he was Co-ordinator of the Labour Party's 2005 general election campaign. Previously, he was Secretary of State for Health (1999-2003), Chief Secretary to the Treasury (1998-1999), and Minister of State, Health Department (1997-1998). Before being elected for Parliament, Alan worked in business development and for a trade union research centre.

Princess Nikky Onyeri is the founder and chief executive of the Princess Nikky Cancer Trust, the foremost non-governmental organization in Nigeria whose mission is to promote cancer awareness. It was founded in 1995 and in 2000 was re-registered as the Princess Nikky Breast Cancer Foundation to focus strictly on breast cancer awareness in Nigeria. The Foundation has made great strides towards raising awareness of breast cancer, initiating screening programmes, promoting treatment, initiating data collection, counseling of patients and lobbying government.

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