NEW AWARENESS ON CHILDHOOD CANCERS

Prof. Julius Ogeng'o

University of Nairobi

E- Mail : jogengo@uonbi.ac.ke

New awareness on Childhood Cancers

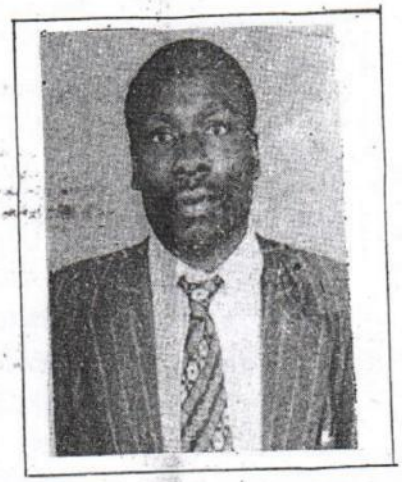
By Dr. Julius A. Ogeng'o

Until recently, childhood cancer had not attracted much attention of health workers and planners in developing countries. This is mainly due to the fact that the priorities in these countries are problems such as malnutrition and infectious diseases. There is however, now a growing concern about the incidence and management of childhood cancer in developing countries.

Indeed, in Kenya today, cancer claims a substantial toll of life of children. In fact about 10 per cent of sick children on the general paediatric wards in Kenyatta National Hospital, for example, have cancer. Viewed in the context of the whole country, this is an underestimate since the majority of the children are either seen in the peripheral hospitals and or die at home. Regrettably, this trend is bound to continue until childhood cancer is conceptualized as a reality in the traditional set-up.

Generally, in tropical countries, patients present to hospital late and in cases where the disease progress is rapid, they will not come to hospital at all. Thus, the clouding effect of malnutrition and infectious diseases and the lack of awareness among parents are two factors which contribute additively to falsify the impression as to the incidence of childhood cancer.

Expansion of child health programmes including increased immunization coverage, health education, advent of potent antibiotics and increased awareness, have definitely decreased the incidence of malnutrition and infections. This in part explains why cancer appears to be assuming more prominence than before. Indeed, in some of the developed countries where infection and malnutrition have been adequately curtailed, cancer has been found to be the second most common cause of childhood deaths.



Dr J.A. Ogeng'o: "Indeed, in Kenya today, cancer claims a substatial toll to life of children".

Certain tumors occur almost exclusively in infancy and early childhood, for example, medulloblastoma, nasopharyngeal fibioma, Wilm's tumor and Retinoblastoma. In Africa, a special place is occupied by Lymphoma, followed closely by leukemia. Both lymphomas and leukemias have been covered in previous issues of this magazine this year and several others were others were discussed in other articles on adulthood cancer. In this article, the last on cancer, the ones almost exclusive to childhood will be discussed.

Causes

Causes of cancer are so far not understood though they are probably a combination of external and internal factors. The external factors are probably more important in adulthood cancers, lymphomas and leukemias as highlighted in relevant articles. Most of them are not operative in the cancers discussed in this issue. Exceptions include, in the tropics, neoplasms like primary liver cancer developing in cirrhotic livers, cancer of the tropical ulcers or tumors of the jaw, which may be linked with poor oral hygiene.

In children, tumors may arise from abnormalities of embryonic development. Nonetheless, unexpectedly, there seems to be little evidence that genetic factors are contributory though heredity would frequently appear to be a factor particularly in Retinoblastomas and Neuraofibiomatosis.

Presentation

Childhood cancers are frequently of great malignancy and difficulty in early diagnosis is compounded by the almost universally insidious onset of the growth. These two factors make cancer in children fairly serious and until recently, the natural course has been depressing. Despite this however, except for the intracranial tumors, most of them are either palpable or visible and presentation depends on the specific type. I shall now highlight some of the common cancers so far not discussed.

Wilm's Tumor

This cancer arises from the kidney and is the commonest childhood solid tumor in Kenya. Its peak incidence is 0–4 years irrespective of the race. It is associated with some congenital defects of the kidney and the commonest presenting features are:

- Abdominal mass
- Enlargement of the liver
- Body wasting
- Palor
- Bloody urine
- Abdominal pain
- Change of bowel habits
- Vomiting
- Fever, poor appetite
- Leg swelling.

Males and females are equally affected.

Diagnosis is made on physical examination combined with tests of kidney function, special x-rays called IVP and ultrasound.

In Kenya, due to late presentation, the outcome of treatment is still not promising. Such treatment consists of surgery, chemotherapy and radiotherapy. There is no doubt therefore that early diagnosis and improved facilities for treatment shall go a long way in improving the outcome.

Retinoblastoma

This tumor, affecting the eye, is usually reported as rare especially in the tropics. It occurs almost exclusively in infants and young children, probably all presenting at birth. The onset may be before birth. There is definite hereditary factor and patients who survive retinoblastoma have about 50 per cent chance of transmitting it to their offspring. Thus, parents of the affected child must also keep knowing that the other child may also be affected.

Retinoblastoma usually presents with a white spot in the pupil and squinting may be present. In advanced cases, pressure may increase inside the eyeball causing severe pain in the eye and very severe headache. The cornea may in extreme cases, rapture leading to red eye. 75 per cent of the cases are usually unilateral and 60 per cent bilateral and may also present with a protruding fungating mass. Frequently, however, early cases can only be detected by ophthalmoscope, an instrument used by doctors to examine the eye.

Radiotherapy is the treatment of choice followed by surgical removal of the entire eyeball and contents of the socket, combined with chemotherapy. Early treatment may give good results and in fact spontaneous recovery is known .

Intracranial Tumours

Intracranial tumors may be primary, in which case they arise from parts inside the skull or arise from other parts and spread to the brain. The latter are called secondary tumors. In the article, primary intracranial tumors are discussed and since the mode of presentation is the same, only general points shall be given. These tumors usually present with:

- Headache
- Vomiting
- Bulging anterior fontanelle
- Greater than normal increase in head circumference
- Staggering gait
- Poor eye movement control
- Poor muscle control or frank paralysis of one or more parts of the body
- Visual difficulties and even blindness
- Progressive speech difficulties
- Weight loss
- Fits and or convulsions
- Skin lesions, for example dark spots over the body, light patches, skin nodules.

Such presentation may also be due to infective conditions like Tuberculosis, cerebral malaria, meningitis, brain abscesses, cerebro-vascular abnormalities, blood clots due to trauma, heavy metal poisoning etc.

Investigations are normally decided upon by the doctor attending to your child and they include:

- Skull X-rays
- C-T Scans
- Special blood vessel X-rays
- Electroencephalography
- Pneumoencephalography
- Enchoenphalography
- Ventriculography

Treatment consists of surgical removal of the tumor where and when possible, combined with chemotherapy and or radiotherapy. Shunting of the cerebrospinal fluid to ease pressure, hormone therapy, diuretics and anti convulsants are useful additions.

Outcome is still poor, though much depends on the tumor and the stage of progression at diagnosis. Older children with less cancerous tumors are better placed. Though radiotherapy and chemotherapy have markedly improved the outlook, death within 1–5 years is the outcome.

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Neuroblastoma

This tumor was initially thought to be very common but since Burkitt's Lymphoma was described, it has been diagnosed less frequently. This difference is because initially Burkitt's Lymphoma was confused for it due to similar organs involvement. Neuroblastoma arises from the cells in the sympathetic system and from a small gland overlying the kidney called the suprarenal or the adrenal gland. The majority occur in the first 3–4 years. In some parts of the world, it is the 3rd most frequent paediatric cancer. Neuroblastoma commonly presents with:

- Asymptomatic abdominal mass
- Subcutaneous nodules of variable sizes
- Chest growths
- Organ enlargement especially the liver and spleen
- Fever and sweating

- Anaemia, weakness
- Black eyes
- Protrusion of the eyeball
- Diarrhoea and weight loss
- Bone pain, staggering and paralysis

Spontaneous regression has been described in as many as 10 per cent of the cases; surgical removal, radiotherapy and chemotherapy in combination offer very promising results.

General Outcome

The common belief that all cancerous diseases are incurable is no longer true. The recent, rapid and continuing strides in chemotherapy, combined with broad spectrum antibiotics, surgical technique, radiotherapy and immunological support have all contributed to make the outlook of cancer patients much brighter. Cure rates are now being reported in tumors of almost every form and in every site, and certain types if treated early enough can be said frankly to carry an increasingly good prognosis.

Conclusion

As we remove the masking effect of malnutrition and the plague of infectious diseases in our children, it becomes apparent that cancer is common in children and in fact that some cancers are confined to childhood. It is also time to appreciate that particularly at this period, a good number of growths are curable. It is true to say that most childhood cancers can be suspected by the parents, confirmed by the doctors and treated by the cooperative, consolidated effort among doctors.

For both children and adults, if the early signs and symptoms of the cancers discussed in the articles so far written in different issues of this magazine were detected, it would go a long way towards ensuring earlier diagnosis and treatment, with subsequent better results. Be on the look out — notice something unusual and give your doctor a chance to help you now! He might just know the cure.