

Perspectives on Testicular Mass in a 4-year-old Boy

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Introduction

These days more and more people are becoming exposed to cancer-related deaths. Varying types of cancers have been cropping up that were rarely encountered 40-50 years ago. It can never be emphasized enough that early detection is one of the major determining factors in the ultimate outcome of cancer cases. Sadly, most of these cases are often in the late stages of the disease by the time diagnosis is established. Delay in diagnosis may be caused either by patient-or physician-related factors. The case cited below is just one among the many that serves to remind us that hand in hand with early detection and treatment, it is just as vital to enhance public awareness and knowledge through health education and to aggressively push for prevention. The health profession should step beyond the confines of acutely treating a disease and commit to pro-active involvement to ensure that aggressive efforts are equally aimed not only at treating but at educating the people as well on cancer and enhancing their awareness.

Case

DH, a 4-year-old male child from Pohnpei, Federated States of Micronesia with no prior medical history presented with chief complaints of cough and shortness of breath. The cough had been present for two weeks with low to moderate grade fever. He was initially seen at a peripheral dispensary and provided Acetaminophen elixir and Metoproterenol syrup. There was not much improvement. One week prior to admission symptoms persisted and prompted a second consult at the local government hospital wherein he was prescribed oral antibiotics for a week's course. A few hours prior to admission, he was brought to a private facility due to increasing shortness of breath. He was coughing, in moderate respiratory distress, and vital signs showed him tachypneic at 32 breaths per minute, tachycardic at 102 beats per minute and mildly febrile at 37.8C, with weight of 15.9 kg. He was breathing with pursed lips, nasal flaring, and mildly cyanotic. Lung findings revealed symmetrical chest expansion with subcostal retractions, diffuse wheezing and crackles on both lung fields. Cardiac findings did not reveal any murmurs. CBC showed leukocytosis with WBC at 20,000 predominantly neutrophilic. Chest X-ray revealed multiple infiltrates and circular shaped consolidations at both lungs. The patient was subsequently admitted as a case of Acute Bronchitis with Pneumonia. Treatment consisted of IV fluids, intravenous antibiotics (ceftriaxone) and round-the-clock nebulizations with albuterol and ipratropium, IV antipyretics and oxygen. Oxygen saturation was initially at 92%. Tuberculin skin testing to rule out tuberculosis was negative.

By the 3rd- 4th hospital day, clinically, DH's condition gradually improved and ambulatory oxygen saturation went up to 98% without supplement oxygen. A repeat chest x-ray showed what appeared to be worsening of the infiltrates in both lungs which was baffling and did not correlate with the clinical picture of the patient.



At this point, a fungal etiology was considered along with PTB despite the negative PPD test so the patient was referred to Public Health to be further evaluated for possible PTB treatment. At the same time he was considered for off-island referral for diagnostic bronchoscopy to determine the etiology of his condition. Oral antifungal, ketoconazole tablet was started for lack of intravenous medication.

It was not until the 6th hospital day that a significant twist came about and a whole different perspective came into place, as in an effort to dig into other possible causes that would correlate with the worsening radiologic findings despite clinical improvement and with further questioning, the mother mentioned that the little boy had a scrotal lump. A surgeon's evaluation on further physical examination revealed a stony firm movable, painless mass at the left scrotum, and an undescended testis at the right. Ultrasound was done and revealed a hypo-echoic mass with calcification measuring 6.8x5.4 cm. It was further discovered the scrotal lump was noted a year ago and the parents had been advised that the patient undergo a surgical procedure at the government hospital, presumably a biopsy but this was not agreed to by the parents who opted to seek for local or traditional medicine as later revealed by the parents. With the recent clinical findings, the impression shifted to metastatic lung cancer secondary to testicular cancer with likely superimposed bacterial infection.

The patient was discharged on the 8th hospital day much improved, without any fever, appetite recovered, and back to his active self with out any apparent respiratory distress even on exertion but still with occasional cough. Two and a half weeks later, he was referred to the Philippines (through his local health insurance) for further work up to confirm on the type of cancer and staging. The diagnosis in the Philippines turned out to be a Germ Cell Tumor, Stage 4 with metastasis to the lungs as well as the abdomen. Prognosis was poor due to the extent of spread. Radiotherapy and chemotherapy was not recommended due to the advanced nature of the disease. The patient was send home but unfortunately passed away during lay over in Chuuk on the return flight to Pohnpei.

Discussion

Germ cell tumours are seen primarily in young Caucasians and make up 4% of all cancers in children and adolescents less than 20 years of age. It is a rare tumour and occurs in 2.4 in every 1 million children in a given year. The reported incidence is highest in Scandinavia, Switzerland and Germany; intermediate in the United States and Great Britain; and lowest in Africa and Asia. The rarity of such type of cancer makes DH's case all the more startling in FSM as a whole and interesting to note.

Germ cell tumours present commonly in the testis (90%) and only infrequently in extragonadal sites (10%). The most common extragonadal sites (in decreasing order of frequency) are the retroperitoneum, mediastinum, and pineal gland. The cause is not completely known and understood. Some tumours arise when cells which normally migrate to the gonads in the developing embryo fail to reach the right location. It may be benign (non-cancerous) or malignant (cancerous). Hypotheses implicating an endocrine-driven, pituitary stimulation of damaged germinal epithelium have not been proved. Random genetic events during early stages of meiosis seem to be implicated. The risk of developing germ cell tumour is increased fourfold to eightfold in cases with undescended testes (cryptorchidism) as was seen in this particular boy. Treatment for such cases depends on the type of Germ Cell Tumour and the extent of spread and stage at time of diagnosis. Because germ cell tumours occur during fetal development, there is no known way to prevent



them. Research has not also uncovered any environmental influences or toxins that put children at increased risk for this type of cancer but as is true with most cancer, prognosis is generally favourable when caught during its earlier stages.

In retrospect, this case exemplifies several factors that may have played major roles in determining the outcome of DH. Most cancers, when caught in its early stages have a better prognosis because when treatment is rendered at an early stage the chances of survival are greater. The question arises on whether this young child's life could have had a different outcome. Was it an oversight not to have pursued this aggressively with the family? Did we fall short as health professionals in educating the family on the potential outcome of the scrotal mass noted a year prior? Was the family made aware of the implications in their son's condition? Was enough effort exerted in educating the parents or even following up on this particular case? Was it negligence or pure ignorance on the parents' that led them to refuse the proposed procedure a year ago? One can only speculate but it strikes a chord somewhere reminding us on our shortcomings and responsibilities.

Providing health education and promoting the awareness of the public is a vital tool in any approach to a health problem. Clinicians may well be equipped with the knowledge and expertise but at times fall short of expectations in other aspects of dealing with a patient. This could be due to the fact that they are mostly overwhelmed with acutely treating the patients. Nonetheless, it is important to point out that educating a patient or the family, advising and providing pertinent medical information and making them understand what is happening to them enables them to get a good grasp of their situation and helps in vital decision-makings. Adequate time with a patient enables a doctor to accomplish this among other things but this may not be ideally seen in most hospital or clinical settings on the islands. Too often the lack of physicians and health professionals result in treating the patient acutely in order to clear up the long waiting lines and to decongest the sick waiting crowd. In an attempt to ensure that all patients are seen within that day, consultations tend to be harried and fixated only on the acute problems patients present with and prescribing treatment for these. Often, focus is mostly on the chief presenting complaint voiced by the patient while the rest tends to take a back seat. It has been observed that the physician –patient interaction has become more of a mechanical process and too often communication is hampered by the time constraints. The establishment of trust and rapport does not take place mainly because adequate time has not been provided; therefore, things tend to be maintained on a superficial level.

In this particular case, it is apparent that the focus on the patient was more on the respiratory symptoms since the chief complaint was cough and shortness of breath. A complete or comprehensive history and physical examination during the initial encounter with this patient would have revealed that the underlying problem was not confined to the respiratory system. It would not have been as baffling too, why the radiologic picture did not correlate with the clinical course. A basic lesson often impressed during early medical training is the role of complete history and physical examination in arriving at a diagnosis. A simple task, an inexpensive basic tool for physicians, and one that is vital in arriving at a diagnosis but admittedly tends to be done in haste in most of our hospital settings.

Additionally, a common situation encountered up to this day is the tendency for people to opt for traditional or local medicine before going to a doctor. Often, when faced with a proposed invasive procedure that may prove life-saving as is true in this case; they choose to seek other means through local healers. More often than not by the time medical consult is sought the problem has escalated or in the case of cancer,



has become far advanced. It is worth pointing out that most cancers occur insidiously and often produce no apparent symptoms until it is far advanced. Growing lumps or masses can be misleading and provides a false sense of security when there is no pain or discomfort involved. This points to the need to educate patients about which situations may benefit from traditional medicine and which situations do not lend themselves to traditional care.

Conclusion

In our current medical systems, the ratio of medical providers to patients will always be disproportionate. There will always be a shortage of physicians but the challenge is not only to treat the sick but also to be able to provide them with pertinent information to enhance their knowledge and raise awareness for them to be able to make the right decisions for their health. Despite all the sophisticated technologies and advanced treatments that have surfaced over the years to combat diseases, prevention is still considered the best way. In this particular instance, because a germ cell tumour occurs during fetal development, there is no known way to prevent this but suffice to say discovering it at its earlier stage might have led to a better outcome. Aggressive measures should be pursued in educating patients and their families and making them understand their illness and potential impacts on their lives. With full understanding and heightened awareness come responsible actions and decisions.

In short, providing relevant health information and educating people is one of the best defences there is and in most instances this certainly can go a long way in preventing loss of lives.

References

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*“How people treat you is their karma;
how you react is yours.”*

Wayne Dyer

