

Adherence To Professional Ethics Among Medical Laboratory Personnel: A Prerequisite For Quality Health Care Delivery In Nigeria

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Introduction

Medical laboratory science has been defined by the Medical Laboratory Science Council of Nigeria (MLSCN) Act 11 of 2003 as the practice involving the analysis of human or animal tissues, body fluids, excretions, production of biologicals, design and fabrication of equipment for the purpose of medical laboratory diagnosis, treatment and research¹. Quality practices in medical laboratory service are of paramount importance in health care delivery.

Healthcare ethics is not routinely taught to the health professionals, and there are reports that even the word “ethics” has been completely ignored in the undergraduate curriculum of some health professionals. Hence it is not surprising that the theory and application of healthcare ethics in day-to-day practice is still not well known to many healthcare providers; medical laboratory professionals inclusive. Therefore, practice of ethics in healthcare may be very much influenced by the cultural background and beliefs of the people in every region.

Ethical behavior means doing the "right" thing. Frequently, the ethical approach is not the most cost-effective way to solve a problem however nor does the ethical solution always result in greater short-term profits. However, the moral structure and legal framework encourage us to walk the ethical high road. Failure to do so can lead to public humiliation and legally enforced penalties.

“ DO” S AND “ DON' T” S IN MEDICAL LABORATORY PRACTICE

There are 'do's and 'don't's which constitute ethical values in this environment and in compliance with provisions of rules of the regulatory body-Medical Laboratory Science Council of Nigeria. The list is inexhaustible but some of the specific guidelines are listed below.

1. Adhere to Standard Operating Procedure (SOP) for all analysis in the laboratory even if it means a longer turn around time and costs more resources.
2. Do not discriminate in observing safety precautions at the point of contact with patients for example during phlebotomy and in handling samples. Observe universal precautions by wearing personal protective equipment (PPE) and designating dirty and neat regions in the laboratory for the safety of laboratory staff, the patients and the environment.
- 3 Guard the privacy of the clients as provided for by the Laboratory guidelines. Do not compromise patient confidentiality. Therefore, resist all temptations to divulge laboratory results to unauthorized individuals.
- 4 Ensure that internal proficiency testing is conducted at intervals, depending on work load and enroll for an External Quality Assurance (EQA) Program.
5. Practice waste disintegration and dispose of all

biohazard wastes generated in your laboratory as provided for by the law.

6. Engage trained, certificated and licensed individuals in your laboratory and do not promote quackery. Subject these employees to retraining at intervals by enrolling them for continuous professional development (CPD) of MLSCN to enable them perform their tasks well.

7. Discuss all potential conflicts of interest with your supervisors so that you can be exempted from the procedures in which your interest may be a source of bias. For example, it is not ethical for you to handle parental dispute case in which a putative father is a relative or friend to you. You must not conceal your relationship with the client from your supervisor. This is to avoid the slightest hint of prejudice.

8. Do not pay kickbacks or any other improper incentives to clients and clinicians, with a view to induce them to request laboratory tests on patients who do not need them.²

9. Do not lie about laboratory services of which you lack facility. Do not falsify any result for any reason whatsoever. Remember, there is no placebo in the laboratory.

10. Do not perform yet to be validated assays in medical laboratory for diagnostic purposes. Remember that medical laboratory techniques are standardized experiments that have been assessed for analytical reproducibility and analytical accuracy, and found suitable.

11. When the need arises, be comfortable to place a call back on an erroneous result that has left the laboratory. You will be doing the patient harm, if you do not call the result back.

12. Do not compromise quality for financial gain. Treat each specimen as if it were your own. Do not use an inferior method just because it saves you money. Do not hire technical support staff for the

lowest salary if they are not qualified to fulfill the job requirements. 13 . Regularly audit your ethics/compliance program

14. Do not violate relevant law under any circumstances.

15. Perform only those tests requested.

16. Do not discriminate on any basis. Never discriminate on the basis of age, sex, gender, ethnic background, race, or any other factor unrelated to job performance. This applies to hiring, disciplining, promoting, or dismissing employees.

17. Do not punish employees who criticize. Be open to criticism from employees. In no case should you punish the worker who speaks his piece, especially if it disagrees with management policies or procedures. Of course, the employee in question should present such criticism in the appropriate manner and forum.

18. Discipline employees who violate the laboratory's ethical guidelines. Don't accept unethical behavior from any employee. Send the clear message that your organization will not tolerate such action. If necessary, discipline and even dismiss those individuals who act in an unethical manner. The rest of the staff will get the message.

ETHICAL ISSUES IN GOVERNMENT AND PRIVATELY OWNED LABORATORIES

It is disturbing to observe that many unethical practices go unpunished in public health institutions. Many laboratories owned by the Government at Local, State and Federal levels perform within the limits of human and material resources provided; which may not be adequate. Even though the equipments, reagents and other facilities required for satisfactory functioning of laboratories are known to and are legislated on; and prescribed by government as prerequisites for running satisfactory laboratory services; these prerequisites are often lacking in

government owned hospital laboratories. Yet, patients who allegedly suffer from perceived laboratory malpractices and their relatives hardly ever seek redress and compensation from the law court or Medical Laboratory Science Council of Nigeria, as appropriate. This is because many Nigerians are not aware of their rights and furthermore, many of them believe that it is difficult for them to win a case in which the government institution itself is liable in an alleged case of negligence or unethical practice.

There may be medical laboratories which operate without licensed laboratorians, while some even compromise standards by using inappropriate technology. Some employees in public institutions also attend to clients samples brought to the laboratory as if they are doing the system a favour. All these are unethical and should not be allowed.

Private laboratories in Nigeria appear to be more stringently regulated by MLSCN nowadays; and the dividends include prompt and quality results occasioned by compliance with ethics². The MLSCN inspects the privately owned laboratories at intervals across Nigeria using standardized check list which include assessment of the laboratory environment, equipments, reagents, personnel, operations and documentation practice; among others. Those laboratories found wanting by the criteria are closed down and sanctioned, while those that need little upgrading are counseled to do same and later monitored to ensure compliance. Public laboratories should be brought under similar strict regulation and control, in the interest of the Nigerian people who access services in these facilities.

Adherence to ethics and professional codes among laboratorians will help in building and maintaining standard health care system in Nigeria.

It will attract attention and respects to the laboratory which has remained the oracle of medicine.

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Thrombocytopenia and Absent Radius (TAR Syndrome): A Rare Case Presenting in a Nine Day Old Neonate

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Abstract

Thrombocytopenia absent radius syndrome (TAR) is a rare genetic disorder that is apparent at birth. TAR syndrome is inherited as an autosomal recessive trait. This disorder is characterized by low levels of platelets in blood (thrombocytopenia) resulting in potential severe bleeding episodes primarily during infancy. Other characteristic findings include absence of the bone on the thumb side of the forearm and underdevelopment or absence of the bone on the radial side of the forearm. Other abnormalities may also be present such as structural malfunctions of the heart, kidneys and mental retardation that may be secondary to bleeding episodes in the brain during infancy.

Introduction

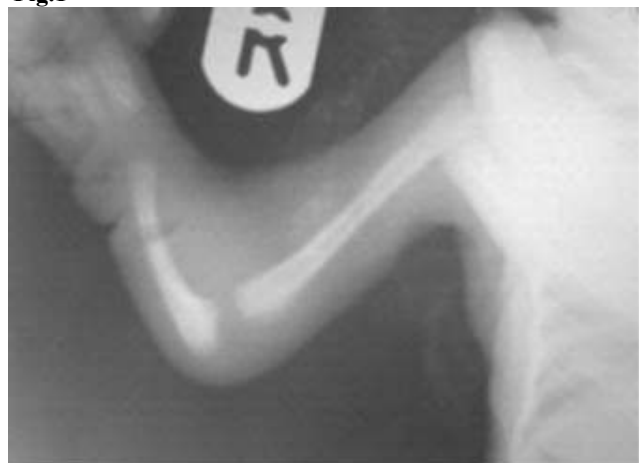
TAR SYNDROME is a rare genetic disorder. A case of TAR syndrome is hereby presented because of its rarity.

Case Report

AT is a nine-day-old female child who presented at the orthopaedic clinic with history of abnormality of both upper limbs. She was a product of a full term pregnancy. The mother was immunized against

tetanus during pregnancy and attended antenatal clinics regularly. Delivery was spontaneous vertex and the baby cried immediately after delivery, Apgar score was 10 at 5 minutes. There was no history of birth trauma and no family history of similar illness. On musculoskeletal examination, both forearms were shortened with associated bowing and fixed flexion at the elbow joints. No other abnormality was detected on the musculoskeletal systems. An impression of congenital absence of the forearm was made. Plain radiograph of the right upper limb showed absence of the radius with bowing of the ulna, and hyperextension of the wrist joint as well as flexion deformity of the elbow joint (Fig.1)

Fig.1



The left upper limb showed flexion deformity at the elbow joint otherwise the demonstrated radius and ulna were within normal limits. Radiographs of the lower limbs were also normal. Abdominal ultrasound and echocardiography showed no abnormality. The platelet count was however reduced, 50,000/mm³. A clinical diagnosis of TAR syndrome was made. The patient was admitted and transfused with platelet concentrates after which haemodynamic stability was achieved. She was subsequently referred for physiotherapy to relief the fixed flexion deformity.

Discussion

Thrombocytopenia absent radius (TAR) syndrome is a rare association of thrombocytopenia and bilateral radial aplasia first described in 1951 with some families having more than one members affected. An autosomal recessive inheritance pattern was proposed^{1,2,3}.

TAR was defined as a syndrome in 1969 and further classified as the association of hypomegakaryocyte, thrombocytopenia and gastrointestinal, haematological and cardiac systems abnormalities³. In the United States, this syndrome rarely occurs, so also in Nigeria but no definite figures are obtainable. Internationally, the frequency is 0.42 cases per 100,000 live births in Spain. No ethnic or racial predilections exist. The male to female ratio is 1:1.

TAR is congenital and the patient usually presents in the first week of life with symptomatic thrombocytopenia. This however wasn't the presentation in the present case.

Fifty percent of affected infants are symptomatic in the first week of life and 90% are symptomatic by age 4 months⁴.

Thrombocytopenic episodes are precipitated by non specific stress, infection and diet.

The upper limb abnormalities range from isolated absent

radii as was demonstrated in this patient, to phocomelia³.

Other abnormalities include bilateral radial aplasia. This present patient had unilateral radial aplasia; radial club hand, hypoplastic carpals and phalanges, hypoplastic ulnae, humeri and shoulder spindles, syndactyly, clinodactyly of fingers and toes, selective hypoplasia of middle phalanx, fifth digit and altered palmar contours.

Lower extremity anomalies occur in 46% of patients and may vary from being clinically undetectable to phocomelia which are usually less severe than those of the upper limb. Other abnormalities include hip dislocation, femoral torsion, tibial torsion, valgus and varus deformity and deformity of the knee. None of these was however seen in our patient.

Cardiac anomalies occur in 33% of patient⁴ though the cardiovascular examination and echocardiography of our patient were normal.

Facial anomalies which include micrognathia (3-30%), facial hemangioma, hypertelorism have also been reported in patients with TAR syndrome³.

Other numerous anomalies described in TAR include: asymmetric first rib, cervical rib, spinal bifida, fused cervical spine, nuchal folds, meckel's diverticulum, uterine anomalies, dorsal pedal edema, short stature, skeletal malformation and large horseshoe shaped kidneys.

In distinguishing TAR from other syndromes involving skeletal abnormalities of the upper extremities, the following may be of assistance. Thumb is always present in TAR but may be hypoplastic or absent in Fanconi anemia. Fanconi anemia also has chromosomal abnormalities, and onset of thrombocytopenia before age one year is rare though usually, pancytopenia is seen in children aged 5-10 yrs. Thumbs are also typically present in Holt-Oram syndrome, and blood cell counts are normal⁴. Characteristic skeletal involvements (i.e. absent radii) are detectable by prenatal ultrasonography as early as 16 weeks gestation, when sufficient fetal skeletal

ossification is present. Upper limb abnormalities on prenatal ultrasonography suggests numerous syndromes. Once radial aplasia has been noticed, ultrasonography of the extremities, face, and kidney is indicated.

Bone marrow sampling may reveal decreased or absent megakaryocyte; small, basophilic, vacuolated megakaryocytes; erythroid hyperplasia or normal myeloid precursor.

The management of TAR syndrome involves precaution during times of significant thrombocytopenia with platelet count less than $80 \times 10^9/L$ (usually during the first year of life) to avoid trauma, avoidance of antiplatelet medications (e.g aspirin, NSAIDS) and prolonged pressure on injection sites especially after intramuscular injections⁵.

The main stay of hospital treatment is supportive care and by far the most significant treatment is platelet transfusion. The goal of platelet transfusion is to maintain sufficient platelets to prevent bleeding without adverse effects. Prophylactic transfusion with leucocytes reduced platelet concentrates are used in patients at high risk of significant haemorrhage⁵.

Splenectomy is usually effective for the treatment of thrombocytopenia in adults.

Bone marrow transplantation (BMT) is an option for patients who continue to remain thrombocytopenic with bleeding despite platelet transfusion.

Surgical care includes splinting of the hands (and legs if indicated) during infancy to improve future function and operative correction of the arm deformities if the patient is haemodynamically stable.

Complications usually arise from hemorrhagic insults especially intracranial haemorrhage.

The clinical course is one of episodic severe

thrombocytopenia superimposed on a background of persistent thrombocytopenia⁶.

The frequency of thrombocytopenia episodes decrease with age. By school age, near-normal platelet counts are expected. If a patient survives the initial 2 years of life, life expectancy is normal⁷.

Summary

TAR syndrome is a rare genetic disorder characterized by low platelet level and radial aplasia. A case of a nine day old female with TAR syndrome was presented to highlight the radiological features. The patient was transfused with platelet concentrate having presented with low platelet count, and she improved thereafter.

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