Audit of emergency throughput of a plastic surgery unit in a developing country

Dear Sir,

Emergency service is an integral part of any discipline in clinical medicine, and it is considered as an indicator of the quality of health care system.\[1\] This study was undertaken to assess the pattern and outcome of emergency surgical admissions to a plastic surgery unit with special emphasis on waiting period between admission and surgery.

Thirty-two patients admitted to the plastic surgery unit through emergency room of University of Ilorin Teaching Hospital between September 2005 and August 2007 were reviewed. Demographic information, diagnosis, interval between presentation and operative intervention; and management outcome were entered into a pre-designed form.

Table 1 shows the demographic characteristics of the patients. There were 24 males and 8 females. The age range was 4 to 80 years, median being 31 years. The peak incidence was in the age group 21-40 years, accounting for 43.8% of all patients [Figure 1]. Twenty-eight (87.5%) patients were admitted on account of trauma, and 4 (12.5%) had infective causes. Most of the injuries encountered were avulsion injuries- 10 (31.3%) patients, cuts and lacerations - 4 (12.5%), crushed injuries- 4 (12.5%), tendon injuries - 5 (15.5%), fractured hand bones- 3 (9.4%), traumatic amputation of hand bones - 2 (6.3%), compartmental syndrome of the leg- 1 (3.1%) and necrotizing fasciitis - 3 (9.4%) patients. Road traffic injuries accounted for 14 injuries (9 motor vehicle and 5 motorcycle), industrial accident - 4 (12.5%), infections - 4 (12.5%) and matchet cuts- 3 (9.4%); while 1 (3.1%) patient each sustained injury from blast, traditional bonesetter splint and stab. Other mechanisms were involved in 4 (12.5%) patients. Hand injuries accounted for 17 (53.1%) admissions; there were 9 (28.1%)

References
Leg injuries and 2 (6.3%) head and neck injuries, while other body regions were injured in 4 (12.4%) patients. Among the 17 patients with hand injuries, 13 injuries were right (dominant) sided, 3 were on the left side and 1 was bilateral. Road traffic injuries were responsible for hand injuries in 5 (29.4%) patients; and operations of mechanical tools, in 4 (23.5%) patients. Four patients each had tendon injuries and crush injuries; 3 each had avulsion injuries; and 2 each had traumatic amputations of the phalanges, fractures of metacarpals and others injuries. Most (5 [29.4%]) of the patients with hand injuries were artisans (manual workers), followed by 4 (23.5%) students, 2 (11.8%) traders, 2 (11.8%) farmers and 3 others. Fourteen (43.6%) patients arrived within 6 hours of injury, and 62.4% of the patients arrived within 24 hours of injury. Three patients had their surgeries within 6 hours of presentation; 3 patients, between 6 and 24 hours; 6 patients, between 24 and 72 hours; and 20 patients had surgery after 72 hours of presentation. Median delay between presentation and surgery was 72 hours (range, 1-1440 hours). Tendon repair and Kirschsner wire insertion were done in 9 patients; debridement and subsequent split-thickness skin grafting, in 9; disarticulation and refashioning, in 2; and suturing was done in 5 patients.

Complications recorded included joint stiffness in 5 patients, wound infections in 4, hypertrophy scars in 3, flap necrosis in 2 and stump necrosis in 2 patients. Mean duration of hospital stay was 37.7 ± 31 days, with a range of 1-116 days.

This study shows that trauma (87.5%) is the leading cause of plastic surgery emergency admissions, and road traffic injury (44%) is the leading cause of trauma. This is consistent with a previous report from this center, where trauma accounted for 70% of emergency admissions. [2] The hand is more frequently injured than any other part of the body. This is because it is the means by which the environment is tested and manipulated, thereby increasing the risk of injury. Artisans were the people most vulnerable to hand injuries, which is in agreement with a previous report from Poland.[3] Hand injuries in manual workers are frequently due to lack of compliance with the standard principles of work safety. The median delay between presentation and surgery of 72 hours is significantly longer than the mean of 1.3 to 16.9 hours reported in studies in developed countries.[3,4] There is a need to evolve a policy that will improve this ugly situation. The reason for this delay was not obtained in this study but is not unrelated to ill-prepared emergency room, inadequate personnel, poor response time of the supporting departments like radiology and blood bank, inability of patients to finance treatment and non-availability of theater space as previously alluded in a report.[5] The delay in surgical intervention leads to prolonged hospital stay and attendant loss of productive time of office and/or school for patients and caregivers. Cardinal to hand injury prevention is training in safety measures. Manual workers need to be educated and trained in workplace safety measures. This study emphasized the need to develop prompt emergency care services in the tropics to cater for the increasing trauma emergencies.

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Table 1: Characteristics of the study population

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Overall (n = 32)%</th>
<th>Hand injury (n = 17)%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak age</td>
<td>31-40 years</td>
<td>21-30 years</td>
</tr>
<tr>
<td>Medial age</td>
<td>31 years</td>
<td>28 years</td>
</tr>
<tr>
<td>Sex ratio (M: F)</td>
<td>3:1</td>
<td>15:2</td>
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<tr>
<td>Medial injury arrival time (hours)</td>
<td>4 hours</td>
<td>3 hours</td>
</tr>
<tr>
<td>Injury-to-arrival time (hours)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1</td>
<td>6 (18.8)</td>
<td>5 (29.4)</td>
</tr>
<tr>
<td>1-6</td>
<td>8 (25)</td>
<td>3 (17.6)</td>
</tr>
<tr>
<td>7-24</td>
<td>6 (18.8)</td>
<td>4 (23.5)</td>
</tr>
<tr>
<td>25-72</td>
<td>1 (3.1)</td>
<td></td>
</tr>
<tr>
<td>&gt;72</td>
<td>11 (34.4)</td>
<td>5 (29.4)</td>
</tr>
<tr>
<td>Median delay between admission and operation</td>
<td>72 hours</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

Figure 1: Age and sex distribution
Letters to Editor

Dear Sir,

Hepatocellular cancer constitutes 90% of all primary liver cell cancers worldwide. [1] There is high prevalence of hepatitis B virus carrier in eastern Asia and Sub-Saharan Africa (5%-10%),[1] and this has been implicated as a major causative factor. Other etiological factors include alcoholism and prolonged oral contraceptive usage,[2] which have been linked to liver cirrhosis.

Primary liver cancer in pregnancy is very rare; [2] however, positive association has been previously established,[3,4] with risk increasing proportionately with parity.[4]

Prognosis of primary liver cancer in pregnancy is very poor. Maternal and fetal losses have remained almost 100% in reported cases. In a series from Ile-Ife, Nigeria, 5 out of the 6 women who reported with hepatocellular carcinoma in pregnancy and postpartum period died after an average of 20 weeks of illness.[5] It is noteworthy that 5 of the 6 women presented in the postpartum period after a normal delivery, showing that Nigerian women with hepatocellular carcinoma may carry pregnancy to term and have a normal delivery. [5] We report a case of pregnancy associated with primary liver cell carcinoma in which the mother had a spontaneous vaginal delivery of a live baby and both mother and baby were alive 6 months postpartum.

A 40-year-old female farmer, gravida 9 para, presented at our facility with a 7-month history of right hypochondrial pain that was gradual in onset, progressive, dull and persistent. The pain was not relieved by analgesics, food or posture. The pain radiated to the back and lower part of the chest bilaterally. There was a history of anorexia, easy satiety and weight loss. There was neither any history of jaundice, body itching, joint swelling or pain nor any history of bleeding from any orifice. There were no cardiorespiratory or urogenital symptoms. There was no history of blood transfusion or surgery, and she had not been on any regular medications. There was no history suggestive of diabetes mellitus, hypertension, cigarette smoking or alcohol ingestion. She did not store grains at home and had no contact with chemicals or ionizing radiation. She had delivered 7 times, with 1 miscarriage; 5 children are alive now, and the last childbirth was 3 days before presentation. She had a normal delivery of a live baby girl who was asphyxiated at birth and had to be managed at the special baby care unit (SBCU) of our hospital.

Clinical signs included wasting, soft silky hair, jaundice, dehydration, moderate pallor and palmer erythema. No parotid enlargement, pedal swellings or lymphadenopathy was found. Her pulse was 83/ min, regular; she had normal blood pressure, viz., 120/80 mmHg, with soft heart sounds S1 and S 2. Chest examination was unremarkable. Abdomen was distended with distorted contour in the upper half; there were visibly distended anterior abdominal wall veins draining away from the umbilicus. Liver was enlarged 16 cm below the xiphisternum and 10 cm below the right costal margin with a span of 20 cm. The liver was hard, nodular with irregular edge, mild tenderness and had a bruit over it. Spleen was not palpably enlarged, and there was no demonstrable ascites. Rectal and vaginal exams were unremarkable. An initial diagnosis of primary liver cell carcinoma was made. Laboratory evaluation revealed packed cell volume of 25 g/dL, WBC of 9400 cells/dL with neutrophils - 67%, eosinophils - 2% and lymphocytes - 30%. Platelet count was 435 × 10^9/L.

Prothrombin time was deranged 3 times the normal value and Kaolin Cephalin Clotting Time (KCCT) deranged 4 times the normal value. Renal functions showed mild elevation of creatinine to 200 uml/L. Liver function test showed normal transaminases and serum bilirubin. Total protein was low, at 44 g/L, with albumin of 28 g/L and globulin of 16 g/L. Hepatitis B surface antigen (HBsAg) was

References