A Rare Fetal Firearm Injury
Imran Hashim and Nabila Talat

ABSTRACT
Firearm injury (FAI) in pregnant women is reported in the literature; however, no reference to date was found to address the neonatal abdominal surgery performed after maternal FAI. FAI during fetal life is extremely rare and very few cases have been reported. We present a report of a 37-week gestation newborn whose mother had an accidental FAI. The neonate was delivered by emergency caesarian section along with emergency laparotomy of the newborn. The baby presented at eight hours of life, who was managed surgically in emergency for multiple small and large bowel perforations and a piece of bullet was recovered from anterior part of thigh.


INTRODUCTION
The majority of fetal deaths reported are due to motor vehicle crashes (82%), followed by FAI (6%). In case of general trauma patients, about 4 - 8% are pregnant patients. Fetal demise ranges from 3 to 38%, especially in blunt trauma cases. FAI is one of the forms of penetrating injury during pregnancy and the management of such cases is always tricky and needs quick monitoring and response. Due to increase in violence worldwide, there is an increase in number of FAI on daily basis, so immensely increasing the importance regarding management of such cases.

This case describes one such condition, not reported earlier.

CASE REPORT
Patient was a term female born eight hours ago in a hospital by emergency caesarian section because her mother had an accidental FAI by two fighting parties of the area, while she was passing by. She was taken to a nearby hospital where an initial examination was done. It found only a skin-deep superficial stab wound on the left side of abdomen but there was no exit wound. Meanwhile, she started having pain in the abdomen. So emergency caesarian laparotomy was performed and there was one perforation on the left side the body of uterus, two perforations of mid ileum, and one perforation on the descending colon. Baby was delivered and uterine and ileal perforations of mother were repaired, whereas newborn was referred to the authors' Hospital.

On examination of the newborn, she was found to have a small spherical wound in her left flank (Figure 1). On further examination, it was about 1 x 2 cm spherical wound with irregular margins, seemed to be muscle deep. Another 1 x 2 cm blackened swelling over lateral side of right upper thigh with a palpable hard matter in it, probably a piece of bullet (Figure 1). The neonate was otherwise conscious, with good cry. Her pulse was 132/minute, respiratory rate 38/minute, B.P 70/50 mmHg and Temp 99.40 F. X-rays of abdomen and pelvis were taken and baby was found to have a bullet in right thigh region (Figures 2a and b). All laboratory investigations were within normal limits. On exploratory laparotomy of newborn, findings were two perforations of 1x1 cm and 1 x 0.5 cm in splenic flexure of colon and distal part of sigmoid colon, respectively. There was another solitary perforation of 1 x 1 cm, found in the proximal ileum (Figure 3).

A tract going through the right iliac bone leading to a bullet piece present skin deep in right upper thigh, which was removed. Ileal and sigmoid perforations repaired after refreshing the margins, while perforation at splenic flexure was managed by divided colostomy. Post-operative course was uneventful and discharged on the fifth postoperative day. At follow-up at two months...
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postoperatively, the patient was doing well and planning is to go for reversal in the next few months.

DISCUSSION

According to a report by National Vital Statistics System in 2013, mortality due to FAI were about 33,636 in United States (about 17.4% of general injury deaths).3 Whenever there is an abdominal injury to the gravid uterus, it is always a difficult situation to deal with; as it can cause direct injury to fetus or indirectly through placental or uterine damage. Two main factors for fetal survival are the gestational age and injury type.4 Although penetrating injury to pregnant women is not very common as compared to blunt trauma; but in case of penetrating trauma, there is always a risk to both the mother and fetus. Intestinal injury is the commonest injury in penetrating abdominal trauma.5 It may lead to fetal mortality up to as high as 60%.6

In this case, it was also direct abdominal penetrating injury to mother with no exit wound, so emergency section was done and neonate was referred timely. Fortunately, there were only intestinal injuries with no other major injury. She was timely operated and saved. To date, worldwide many gunshot injuries have been published regarding pregnant women, but there are very few reports of neonatal emergency surgery and survival. To the authors’ knowledge, this index case is considerably important which had major abdominal injury and the baby survived. In a case report by Kocemer B et al., neonate was saved as there was only minor limb trauma.1 Moreover, there was no exit wound in their case, as it was in this case.

This case is peculiar in terms of emergency delivery management as the mother was accidently exposed to FAI and the injured newborn was timely referred to tertiary care hospital for management, resulting in survival.

REFERENCES


