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Reflection of Syrian Refugees to Pediatric Surgery

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ABSTRACT

Objective: Migration is an emergency in all aspects. Since the war began many of Syrian refugees were treated in our country. We aimed to evaluate pediatric surgical outcomes of these children in a tertiary center in Turkey

Design: A retrospective study is reported

Setting: Patients in present study were treated in a tertiary hospital

Subjects: Pediatric Syrian refugees

Intervention: Surgery

Main Outcome Measure: Syrian refugees who were operated at the Pediatric Surgery Department of our hospital between June 2014 and November 2017 were evaluated retrospectively. Demographic data, diagnosis, and treatment were recorded.

Results: We operated twenty male and eight female patients under general anesthesia. 8 (%28.6) of them had newborn pathologies, 5 (%17.9) had inguinal pathology, 3 (%10.8) had tumor, 3 (%10.8) had urological disorders, 5 (%17.9) had gastrointestinal pathology, 1 (%3.5) had lymphangioma, 1 (%3.5) had nuchal diaphragmatic hernia, 1 (%3.5) had bronchoscopy for evaluating tracheoesophageal fistula, and 1 (%3.5) was operated due to trauma. Patients died due to trauma and multiple congenital anomalies. Others were treated successfully.

Conclusions: Wars and natural disaster effects humans and especially children. They have to leave their countries and move to neighbouring countries. By this study we wanted to draw attention and raise awareness on this emergency. Like the pediatric surgeons in the border, all the pediatric surgeons in our country will continue to do their best with regard to these children.

Key Words: Syrian refugee, Children, Surgery

INTRODUCTION

Wars affect soldiers and also elders, women and children. Since the war in Syria began in March 2011 Turkey is hosting 2,967,149 Syrian Refugees and 44.7 % of them are under age of 18^[1]. Emerging situations like health, education, basic needs, protection, and social activity facilities is being provided by The Republic of Turkey^[2]. Thousands of seriously injured Syrians were brought to Turkey for emergency operations and intensive care^[2]. More than a million patient consultations for Syrian refugees were registered in outpatient settings^[2]. Although Konya is not a Syrian neighborhood province there is a great refugee movement and survey. In present study we aimed to evaluate the demographic and clinical characteristics of Syrian refugees to a pediatric surgery department of a tertiary care hospital.

MATERIAL AND METHODS

The study protocol was approved by the Selcuk University Medical Faculty Ethics Committee (2017/21-06/12/2017). The records of Syrian children those operated between June 2014 and October 2017 in Pediatric Surgery Department were retrospectively analyzed. Demographic data, diagnosis, and treatment were recorded. All patients had preoperative routine blood tests. If needed they had urine analysis, urinary ultrasonography, plain abdominal X-ray, computerized tomography, and magnetic resonance imaging. They received antibiotic prophylaxis excluding inguinal pathologies. All operations were performed under general anesthesia. Newborn patients were treated in newborn intensive care unit, some others in intensive care unit, and also in reanimation unit. After discharge some of the patients did not come back for follow up.

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RESULTS

Twenty male and eight female patients were operated under general anesthesia. 8 (%28.6) of them had newborn pathologies, including anal atresia, corpus callosum hypoplasia, meningomyelocele, hydrocephalus, feeding intolerance, diaphragmatic hernia, gastric perforation, patent omphalomesenteric duct, meconium pseudocyst, again diaphragmatic hernia, and necrotizing enterocolitis. Divided colostomy, Stamm gastrotomy, primary repair of diaphragmatic hernia, partial gastric resection, resection ileo-ileal anastomosis, loop ileostomy, intestinal resection with divided jejunostomy, and primary repair with mesh was performed respectively. 5 (%17.9) had inguinal pathology as inguinal hernia (three of them), bilateral hydrocele, and incarcerated inguinal hernia. High ligation and hydrocelectomy was performed. 3 (%10.8) had tumor including Wilms tumor, abdominal rhabdomyosarcoma, and B cell lymphoma. Total-partial excision, loop ileostomy, and chemotherapy was applied. 3 (%10.8) had urological disorders like ureteropelvic junction obstruction, bilateral vesicoureteral reflux due to posterior urethral valve with chronic renal failure, and left vesicoureteral reflux. Anderson Hynes pyeloplasty, Mitrofanoff procedure and suburethral transurethral injection (STING) were performed. 5 (%17.9) had gastrointestinal pathology, including dysphagia and malnutrition due to cerebral palsy, hematemesis, feeding intolerance due to cardiomyopathy and pulmonary hypertension, feeding intolerance due to coanal atresia, and rupture of hepatic hydatid cyst. Stamm gastrotomy, gastroscopy, laparoscopic gastrotomy, Stamm gastrotomy, and unroofing was performed respectively. Bleomycin injection was performed to lomber lymphangioma. Recurrence diaphragmatic hernia received patch repair. Splenectomy was performed to multitrauma patient. Bronchoscopy was performed to a patient that had aspiration pneumonia with tracheoesophageal fistula suspicion (Table 1). Those who had multitrauma and multiple congenital anomalies were died. Others were treated successfully and some of them are being treated by pediatric oncology and pediatric gastroenterology department.

DISCUSSION

Immigration due to wars is a serious problem that causes complex problems and affects human life. Women and children are the most aggrieved group. Turkey is a neighbour country to Syria and wounded refugees are being treated especially in border cities [3]. Although Konya is not a Syrian neighborhood province there is a great refugee movement and survey as other cities in our country. This is the first study that evaluates immigrant children from Syria with pediatric surgical diseases.

There are several reports evaluating Syrian refugees. Heart disease in Syrian refugee children were reported

by Al-Ammouri et al [4]. Late presentation and diagnosis, high rate of complications, suboptimal living conditions, lack of funding and high mortality rates were the major challenges of refugees in their study.

Newborns in present study had not any prenatal diagnosis. Clinical characteristics and pregnancy outcomes of Syrian refugees were reported by Erenel et al [5]. They showed that 41.3 % of Syrian patients did not receive antenatal care. Their findings support our results. One patient with multiple congenital anomaly including anal atresia and corpus callosum hypoplasia was died in our study. We do not have any knowledge about whether parents of these children has exposure to chemical weapons. It was used in August 2013 as known [6].

Turkish Government Ministry of Health has mended free healthcare for Syrian refugees. Pediatric surgical outpatients like inguinal hernia, hydrocele are being treated in State hospitals and not allowed to tertiary centers. This explains the low number of patients with inguinal pathologies in our study.

In tumor group chemical weapon effects was seen in a patient from Aleppo with B cell lymphoma. Another one who had Wilms tumor had chemical waste doubt in drinking water. Although we are not sure we think that chemical weapons was used or being used in Syrian war.

Late presentation and diagnosis was the major challenge in patient with bilateral vesicoureteral reflux due to posterior urethral valve with chronic renal failure. Patients with gastrointestinal pathology, lomber lymphangioma, and recurrence diaphragmatic hernia had a successful treatment. Trauma was due to traffic accident in present study.

Injured patients in Syria were transferred to emergency department of hospitals in border cities in Turkey so there is not any injured patient such gunshot wounds, and burn in our study [7]. Differently from present study Çelikel et al evaluated demographical data and injury characteristics of Syrian children who were wounded in Syria Civil War and died while being treated in Turkey [8]. Children mostly died of head and neck injuries predominantly caused by bombing attacks and autopsies of them revealed fatal intracranial hemorrhages and parenchymal injuries in their study. Similarly patients with cranial gunshot wounds in the Syrian civil war were analysed by Aras et al [9] but only 8.6% of them were pediatric patients. The orphan children of Syria are at high risk of developing mental health disorders due to traumatic experiences, adjustment difficulties, and loss [10]. For reducing the morbidity and mortality associated with mental illness in this population, mental health interventions were offered [10]. Similarly the prevalence of post-traumatic stress disorders in adult Syrian refugees living in camps in Lebanon was determined. Refugees from Aleppo had significantly more post-traumatic stress disorders than those coming from Homs [11].

Birth characteristics of Syrian refugees and Turkish citizens in Turkey was evaluated and cesarean delivery number, median neonatal birth weight, and gestational diabetes was significantly higher in Turkish citizens [12].

As reemerging infections measles, poliomyelitis, leishmaniasis, and multidrug-resistant tuberculosis were most frequently seen in Syrian refugees [13]. Multidrug-resistant gram-negative bacterial infections were seen with high incidence in gunshot or surgical wounds.

Limitation of this study may include a retrospective design and low number of patients. Despite these limitations present study is the first to investigate pediatric surgical patients among Syrian refugees. The international community has to be aware of this and assist Turkey's efforts to provide adequate health care to Syrian refugees.

CONCLUSIONS

Wars and natural disaster effects humans and especially children. They have to leave their countries and move to neighbouring countries. By this study we wanted to draw attention and rise awareness on this emergency.

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There is no conflict of interest.

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Table 1: Demographic data

Refugees	Age	Gender	Diagnosis	Treatment
Newborn pathology	4 day old	male	anal atresia corpus callosum hypoplasia horseshoe kidney	Divergan colostomy loop ileostomy Stamm gastrostomy
	1 day old	male	meningomyelocele hidrocefali	Stamm gastrostomy
	3 day old	male	gastric perforation	gastric partial resection
	1 day old	male	diaphragmatic hernia	primary pepair
	1 day old	male	patent omphalomesenteric duct	resection ileo-ileal anastomosis
	1 day old	male	meconium pseudocyst	loop ileostomy
	1 day old	male	diaphragmatic hernia	primary repair with mesh
	21 day old	male	necrotizing enterocolitis	resection jejunostomy divided
Inguinal pathology	17 month old	male	right inguinal hernia	high ligation
	8 month old	male	bilateral hydrocel	bilateral hydrocelektomy
	8 month old	male	left incarcerated inguinal hernia	high ligation
	3 month old	female	bilateral inguinal hernia	high ligation
	2month old	male	right inguinal hernia	high ligation
Oncological pathology	6 year old	female	Wilms tumor	total excision
	5 year old	female	abdominal rabdomyosarkoma	subtotal excision
	4 year old	male	B cell lenfoma Ceacal perforation	absce drainaige ileostomy
Urological pathology	6 month	male	left ureteropelvic junction obstruction	Anderson-Hynes pyeloplasty
	4 year	male	chronic renal failure operated posterior uretral valv bilateral vezikoureteral reflux	bilateral ureteroneosistostomy mitofanoff procedure
	5 year	female	Left vezikoureteral reflux	left sting
Gastrointestinal pathology	1 year old	male	cerebral palsy malnutrition dysfagea	Stamm gastrostomy
	2 month old	male	upper gastrointestinal bleeding	gastroscopy
	6 month old	female	cardiomyopathy pulmonary hypertension tracheostomy	laparoscopic gastrostomy
	2 month old	male	coanal atresia patent ductus arteriosus	Stamm gastrostomy
Trauma	6 year old	female	rupture of hepatic hydatid cyst	unroofing
	16 year	female	subarachnoid hemorrhage pulmonary contusion pnomotorax splenik laceration	splenektomi
Thorasic pathology	3 month old	male	tracheoesophageal fistula	bronchoscopy
recurrence	1 year old	male	diaphragmatic hernia	patch repair
lymphangioma	6 year	female	lomber lymphangioma	bleomycin injection