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Pediatric ENT Emergencies: Epidemiological, Clinical, and Therapeutic Aspects. A 5-Year Retrospective Analysis of 150 Cases

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Abstract **Original Research Article**

Introduction: Pediatric ENT emergencies represent a significant diagnostic and therapeutic challenge due to the potential for serious functional and aesthetic sequelae, and even life-threatening complications. ***Objectives:*** To describe the epidemiological, clinical, therapeutic, and outcome characteristics of ENT emergencies in children. ***Methods:*** This was a five-year retrospective study (2017-2021) including 150 children aged 3 to 15 years hospitalized for an absolute or relative ENT emergency. Data were collected using a pre-established form and analyzed with Microsoft Excel. ***Results:*** The mean age was 5.3 years with a male predominance (56.6%). Infectious pathologies (54.7%) and foreign bodies (30%) were the main etiologies. The most common presenting symptoms were otalgia (24.5%) and fever (18.3%). The majority of cases (88.7%) were relative emergencies. Treatment was primarily medical (86.6%) and/or surgical (76%). The outcome was favorable in 98% of cases. ***Conclusion:*** This study confirms the predominance of infectious emergencies and foreign bodies in pediatric ENT. Rapid and appropriate, often multidisciplinary, management yields excellent results and prevents complications. Prevention, particularly of domestic accidents and foreign body ingestion, remains a major area for improvement.

Keywords: ENT Emergencies, Child, Foreign Bodies, Infections, Facial Trauma, Epidemiology, Morocco.

INTRODUCTION

Pediatric otorhinolaryngology (ENT) emergencies constitute a significant part of hospital activity. Of an accidental and unforeseen nature, they affect a vulnerable population and can lead to irreversible sequelae or become life-threatening [1, 2]. The spectrum of these emergencies is broad, ranging from absolute emergencies (airway foreign bodies, epiglottitis, severe epistaxis) to relative emergencies (otitis, sinusitis, lymphadenitis) and functional emergencies (facial paralysis, sudden hearing loss) [3]. Their management requires rapid diagnosis and appropriate therapy to minimize morbidity. Few studies, particularly in the Moroccan context, have focused specifically on this topic. This work aims to describe the epidemiological, clinical, and therapeutic characteristics of pediatric ENT emergencies managed at a Moroccan military hospital.

PATIENTS AND METHODS

Study Design and Period:

A descriptive retrospective study was conducted over a five-year period, from January 2017 to December 2021.

Setting:

The study was carried out in the Department of Otolaryngology-Head and Neck Surgery in collaboration with the Department of Maxillofacial Surgery at the Moulay Ismail Military Hospital in Meknes, Morocco.

Study Population:

We included all patients aged 3 to 15 years hospitalized for an ENT emergency (absolute or relative). Patients treated on an outpatient basis, those with purely dental trauma, and those with incomplete medical records were excluded.

Data Collection:

Data were collected anonymously using a pre-established form. Variables included epidemiological data (age, sex, medical history), clinical features (reason for consultation, physical examination, diagnosis, type of emergency), paraclinical investigations (imaging, laboratory tests, audiometry, endoscopy), and therapeutic management (medical, instrumental, surgical treatment, and outcome).

Data Analysis: Data analysis was performed using Microsoft Excel software.

RESULTS

1. Epidemiology

Of 729 children hospitalized in the ENT department during the study period, 150 (20.5%) were admitted for an emergency. The highest frequency was noted in 2018. The male-to-female sex ratio was 1.3 (56.6% boys). The most affected age group was 3 to 5 years (56%), with a mean age of 5.3 years. The majority of patients (73.3%) had no significant pathological history.

Table 1: Distribution of Patients by Age Group

Age Group (years)	Number (n)	Percentage (%)
3 - 5	84	56 %
6 - 10	48	32%
11 - 15	18	12%

2. Clinical Presentation

Play accidents (60.3%) were the main circumstance leading to trauma and foreign body insertion. The mean time to admission was long (>72 hours for 58% of patients). The main reasons for consultation were otalgia (24.5%) and fever (18.3%). Relative emergencies predominated (88.7%), followed by absolute emergencies (10.7%) and functional emergencies (1.3%). Topographically, cervicofacial (44%) and otological (36.7%) emergencies were the most frequent.

Table 2: Main Presenting Symptoms

Presenting Symptom	Percentage (%)
Otalgia	24.5%
Fever	18.3%
Cervical swelling	10.1%
Rhinorrhea	7%
Otorrhea	6.6%
Hearing loss (Hypoacusis)	6.2%

3. Etiological Diagnoses Infectious pathologies

(54.7%) were the leading etiology, dominated by acute otitis media (15.3%) and acute cervical lymphadenitis (7.3%). Foreign bodies (30%) were the second most common cause, primarily located in the external auditory canal (14.7%) and nasal cavities (10.7%). Trauma (8.7%) and hemorrhagic causes (5.3%) completed the profile.

Table 3: Distribution of Etiological Diagnoses

Primary Diagnosis	Number (n)	(%)
Infections	**82**	**54.7%**
- Acute Otitis Media (AOM)	23	15.3%
- Acute Lymphadenitis	11	7.3%
- Acute Parotitis	9	6.0%
Foreign Bodies (FB)	**45**	**30.0%**
- FB External Auditory Canal	22	14.7%
- FB Nasal Cavity	16	10.7%
Trauma	**13**	**8.7%**
Hemorrhagic Emergencies	**8**	**5.3%**
Functional Emergencies	**2**	**1.3%**

4. Management and Outcome

The majority of patients (83.3%) were hospitalized, primarily for a short duration (<3 days for 48%). Treatment was predominantly medical (86.6%, involving antibiotics and analgesics) and surgical (76%, including cervicotomy, paracentesis, and wound suturing). The outcome was favorable in 98% of cases, with only 3 minor postoperative complications (post-tonsillectomy bleeding). No mortality was recorded.

DISCUSSION

Our study of 150 cases provides a representative overview of pediatric ENT emergencies in a Moroccan hospital setting. The prevalence of 20.5% is consistent with data from the African literature, which ranges from 12% to 20% [4, 5], reflecting the importance of this pathology.

The male predominance (56.6%) and the high incidence in the 3-5 year age group are consistently reported. This can be explained by the hyperactive nature and natural curiosity of young boys, exposing them more

to the risks of domestic accidents and foreign body ingestion [6, 7]. The long admission delay (>72 hours for 58% of patients) is a common finding in Africa [5, 8] and may be attributed to the predominance of relative emergencies, initial self-medication or use of traditional medicine, and difficulties in accessing healthcare.

The etiological profile is dominated by infections (54.7%), particularly acute otitis media, confirming data from Diallo *et al.,* (33.3%) and GBE.M. Christiane (39.7%) [5, 8]. The high prevalence of AOM in young children is due to immune immaturity and the specific anatomy of the Eustachian tube, which is shorter and more horizontal, promoting fluid stagnation [9]. Foreign bodies (30%) represent the second leading cause, with a preferential location in the EAC, unlike other studies that report a predominance of esophageal or nasal FBs [10, 11]. This variation may be explained by cultural and socioeconomic differences influencing the types of objects accessible to children.

Therapeutic management was primarily medical, reflecting the high proportion of infections, and surgical, necessary for the extraction of complex foreign bodies, drainage of abscessed collections, and repair of trauma. The 98% success rate and absence of mortality demonstrate the effectiveness of appropriate and multidisciplinary management in a specialized center.

The limitations of this study include its retrospective and single-center design, as well as the exclusion of infants under 3 years of age, which may limit the generalizability of the results to the entire pediatric population.

CONCLUSION

This study confirms that pediatric ENT emergencies are frequent and dominated by infectious pathologies and foreign bodies. Young boys aged 3 to 5 years are most at risk. Although the majority of these emergencies are relative, their potential severity necessitates early diagnosis and specialized, often multidisciplinary, management, which yields excellent results. Prevention, through parental awareness of domestic risks and the dangers of ingesting small objects, remains an essential public health initiative to reduce the incidence of these accidents.

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