MAXILLOFACIAL TRAUMA IN KUWAIT: A RETROSPECTIVE STUDY (1985-1989)

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مع تقدم المدنية في الكويت في بداية الثمانينيات، لاحظت وزارة الصحة ازدياد عدد إصابات الجروح والكسور الوجهية وكسور الفكين وارتفاع عدد الحالات التي تم علاجها في مستشفيات الدولة. لذا تم إنشاء وحدة خاصة لهذا التخصص في مركز طب الأسنان.

تبين من الدراسات السابقة أن حوادث كسور الوجه والفكين لدى الأطفال بين عمر الولادة وعمر ١٢ عاما هي الأعلى في العالم، والسبب الرئيسي هو حوادث المرور والسقوط داخل أو خارج المنزل. ولقد تم فحص ودراسة جميع الحالات التي أدخلت إلى وحدة جراحة الوجه والفكين منذ العام ١٩٨٥ ـ ١٩٨٩م ما هي أسبابها، أنواعها، وطرق علاجها.

ومن واقع دراسة ملفات المصابين الذين تم إدخالهم إلى وحدة جراحة الوجه والفكين وعددهم (٣٥٢) مريضا بجميع الأعمار منذ ١٩٨٥ ـ ١٩٨٩م مع العلم أن حالات كسور الأسنان أو حالات الوفاة تم استبعادها تبين كسور مختلفة في العظام ما حول الجيوب الفكية أو كسور في عظام الأنف والفك العلوي أو السفلي، والمعلومات التي جمعت تحوى العمر، الجنس، الجنسية، السبب، موقع الحادث، نوع الكسر والعلاج اللازم، وتم مقارنة فئات الأعمار لمعرفة وجوه التشابه والاختلاف في المعلومات.

وقد أثبتت التقارير التي تم دراستها على ٣٥٢ حالة بين ضحايا الكسور الوجهية وعلى اختلاف فئات الأعمار في الفترة من ١٩٨٥ ـ ١٩٨٩م أن فئة العمر ما بين (١٥ـ١٩ سنة) تعتبر أعلى نسبة في عدد الإصابات بكسور الفكين أي ٢١,٩٪ من نسبة الإصابات (عدد الحالات ٧٧ حالة في ٣٥٢ وهي أيضا الأعلى ما بين فئات الأعمار ككل).

إن فئة العمر دون الـ١٤ سنة تقدر بـ١٣,٦٤٪ من نسبة الحالات التي تم علاجها، بينما نسبة الذكور إلى الإناث المصابين هي (٤ إلى ١) تقريبا وهذه النسبة تتناسب مع تعداد السكان الكويتيين إلى عدد السكان غير الكويتيين العرب بينما تقل النسبة عند السكان غير الكويتيين وغير العرب أيضا بالنسبة لتعدادهم. وتعتبر حوادث المرور هي السبب الرئيسي لكسور الوجه والفكين بينما لم تسجل حوادث العنف كسبب رئيسي لهذه الإصابات.

تقسم الكسور بالتساوي بين وسط الوجه والفك السفلي، نسبة الكسور في الفك السفلي هي ٤٦,٢٪ من مجموع الإصابات، نسبة الإصابات بكسر الفك السفلي بالتحديد هي ٢١,٧٪، أما إصابات الفك العلوي نسبتها حوالي ١٦,٣٪ والتثبيت بالجبيرة السلكية الخاصة كانت هي الأكثر شيوعا واستخداما في علاج الحالات أي بنسبة ٥٩,٣٪.

The patterns of maxillofacial trauma in Kuwait from 1985 to 1989 are compared. The incidence of trauma to children appears greater than in other countries reporting such data. In Kuwait, the age group 15-19 has the highest rate of trauma. The male-female ratio is similar to other countries. Violence or assault is not considered an etiological factor in Kuwait. The health and economic loss to Kuwait needs to be determined.

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Introduction

With the increasing modernization of Kuwait in the early 1980's, the Ministry of Public Health observed an increase in maxillofacial injuries admitted to the public hospitals. In response to the increased treatment needs, the government developed the Maxillofacial Trauma Unit at the Specialist Dental Center in Kuwait City.

Previous studies have reported that maxillofacial injuries to children in Kuwait appears to be the highest in the world.[1,2] Age of injured children ranged from birth to 12 years. The chief causes of these injuries are road traffic accidents and falls in and around the house.

In this study, the aetiology of all maxillofacial injuries admitted to the Unit from 1985 to 1989, and their types and treatment rendered were examined.

Materials and Methods

A retrospective review of the maxillofacial trauma experience of the Maxillofacial Trauma Unit was undertaken. The 352 files of all patients admitted to the unit from January 1985 to December 1989 were examined. Patients with only tooth injuries or patients who . ed were excluded. Injuries were defined as fractures of the paranasal sinuses, nasal bones, maxilla, or mandible. Data collected on each case included age, sex, nationality, etiology, location, type of injury, associated injuries and treatment provided. Comparisons of the different age-groups were then made to define similarities and differences.

Results

The age-group 15-19 had the highest incidence of maxillofacial trauma -21.9% (77/352, p= .005 [Fig. 1|) and the specific case rate was 53.03/ 100,000 [Fig. 2], which is the highest among all age-groups. The 14 and younger age-group represented 13.64% (48/352) of the admissions. The ratio of male to female victims is approximately 4:1 [Fig. 3]. The percentage of victims by nationality is consistent with the population estimates for Kuwaitis and non-Kuwaiti Arabs, while percentage of injured among non-Arabs was lower relative to their population ratio [Fig. 4].

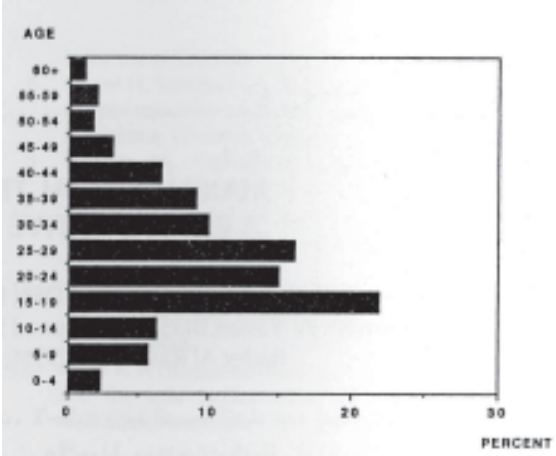

Figure 1. Trauma cases by age and percent.

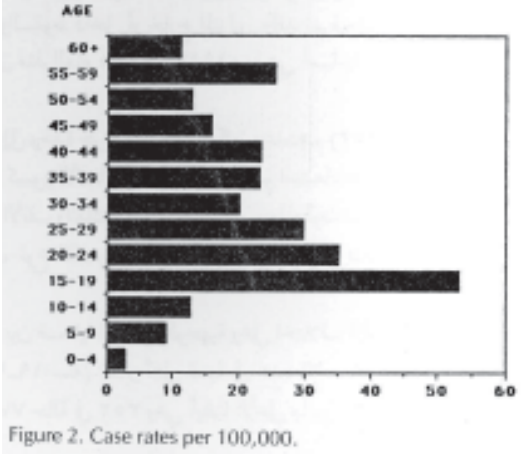

Figure 2. Case rates per 100,000.

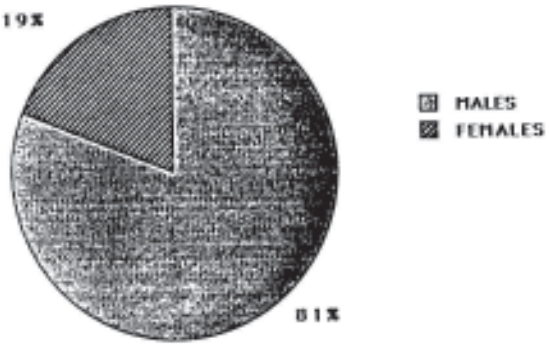

Figure 3. Injuries distribution by sex.

Road traffic accidents (71 %, 139/196) is by far the primary cause of maxillofacial trauma [Fig. 5]. Violence is not reported as an etiological factor.

Fractures are near equally divided between the

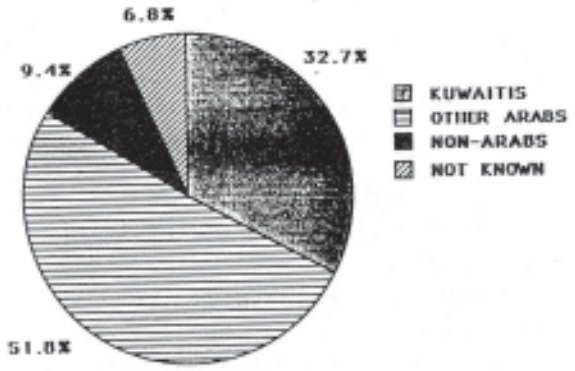

Figure 4. Injuries distribution by nationality.

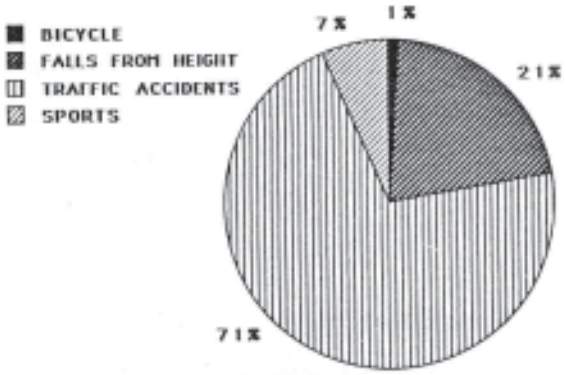

Figure 5. Causes of injury by percent.

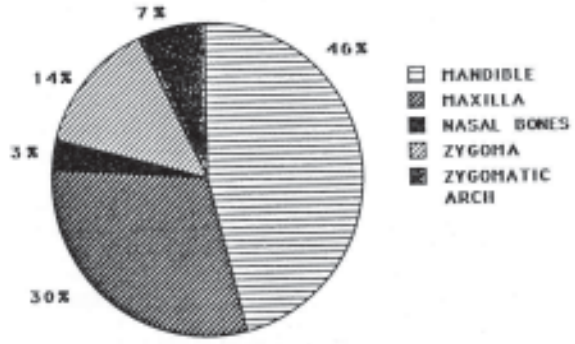

Figure 6. Sites of injuries by percent.

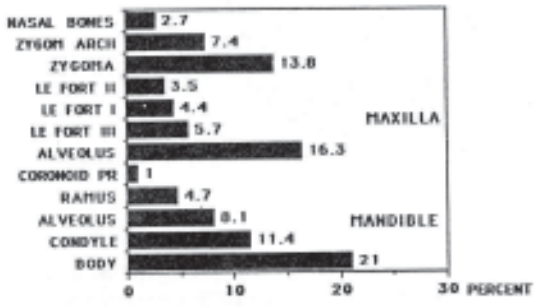

Figure 6a. Specific sites of injuries by percent.

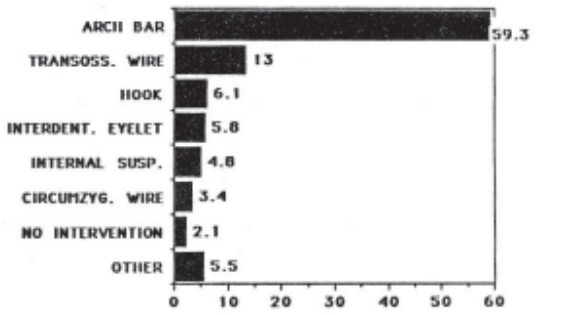

Figure 7. Types of treatment

Table 1. Associated injuries

Site of injury	No. ofCases
Long bones	13
Eyes	9
Head	8
Spine	3
Chest	3
Abdomen	I
Hand	1
Knee	1
Scapula	1
CSF Rhinorrhoea	1
CSF Otorrhoea	1

middle face and the mandible [Fig. 61. Injuries to the mandible were 46.2% of total injuries; the body of the mandible being the specific site most often injured - 21.7% [Fig. 6a]. In the maxilla, the alveolus was the primary siteof injury—16.3%. The highest percentage of associated injuries occurred in the long bones - 31% (Table 1). Arch bar stabilization was the most prevalent treatment method-59.3% [Fig. 7].

Discussion

In Kuwait, accidents involving motor vehicles and in and around the house are the major etiological factors in maxillofacial trauma. The percentage of cases involving children continues to far exceed the rates reported in other countries with available data.[3] The specific rate for the 15- to 19-year-old age-group greatly exceeds any other age-group (p = 0.003). It seems that males of this age-group are most likely to be injured regardless of the reason, be it a motor car in Kuwait or a fist in England.

In a study of tooth related injuries to patients younger than 20 years in Finland, only 11% was caused by traffic accidents while another 11 % was

caused by violence.[4] Interestingly, in Kuwait, violence is not considered an etiological factor. This finding may well be inaccurate as the patient may not be able to relate the entire truth about the causes of the injury. Additionally, it is possible that the hospital chart causes a bias in its reporting by noting (a) the cause of injury and (b) the driver or passenger. The juxtaposition of these questions could bias the answers. In England, violence is a major cause of such injuries.[5]

The percentage of road traffic accident of all causes has increased from 56% in 1980-84 to 71 % in 1985-89. This percentage is similar to the reported rates in Riyadh, Saudi Arabia.[6] The rate of injuries involving females in Kuwait increased from 12.9% in 1980-84 to 19% and is similar to the rates in USA, England, and Saudi Arabia[6,7,8] The increase reflects the continuing integration of women into the social and economic affairs in the Kuwait's society. The incidence of injuries to the mandible is similar to the findings in other studies (32-53%), while fractures to the maxilla (30%) are far greater than reported in Riyadh (13.6%) or Tayside(4.4%).[3,5,6]

This high rate of maxillary fractures can be attributed to injuries caused by contact with the windshield or other interior components of the car. In the United States, automobile glass is considered the leading cause of facial injuries in automobile crashes.[9]

Conclusion

Economic prosperity from oil has brought rapid industrialization to Kuwait with its concomitant problems. The increased number of motor vehicles has led to an increase in road traffic accidents.[10,11] This increase is reflected in the high incidence of maxillofacial trauma, especially in the under-20-year-old age-group. While Kuwait roads are considered among the best in the world, car accidents have continued to increase since the 1980-84 period. Children and young adults are inordinately involved in these accidents. The percentage of 15-19-year-olds involved reinforces the community perception of both illegal and poorly trained drivers. Unfortunately, there is also an increased rate of females suffering from these injuries, about 47% more than what has been reported for the 1980-84 period.

Injuries remain the leading cause of death during the first four decades of life.[12] The toll in death and disability is rivalled only by the high cost to society in lost productivity and wasted utilization of scarce resources. Kuwait is a wealthy country, yet this economic loss to society from unexpected injuries and death remains unacceptable. While road safety promotions exists in Kuwait, this report indicates that society does not heed to it. Strengthening the laws, traffic regulations, and driver education programs are essential. The effectiveness of restraints in reducing the frequency of facial injuries is well documented.

Further studies are needed to elucidate the role of violence in these injuries. Better documentation of the injuries and its causes, and the use of seat belts by drivers and passengers are required. The cost to society remains unmeasured and precautionary measures need to be taken to effectively eliminate such injuries and death.

Acknowledgment

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