

Assault-related facial injuries during the season of goodwill



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Objective. The aim of this study was to assess if the “season of goodwill,” over the 12 days of Christmas, manifests in a reduction in the rate of maxillofacial injuries secondary to interpersonal violence.

Study Design. We performed a retrospective analysis at a teaching hospital in the United Kingdom. We identified consecutive patients presenting at our institution with facial injuries secondary to assault during the Christmas season, together with corresponding Easter time and control periods. Data for 4 consecutive years starting from 2010 were collected. We compared the rates of presentation of facial injuries over the Christmas season with those occurring during Easter and control periods. Our outcome measures included frequency distributions of facial injuries secondary to assault as well as maxillofacial injury patterns.

Results. For the study, 440 patients met the inclusion criteria, with 194 presentations occurring during the Christmas season, 132 presentations over Easter, and 114 over the control period ($P = .006$). There was a statistically significant difference in the mean rates of presentation between the Christmas and Easter seasons ($P = .03$) and also between the Christmas and control periods ($P = .02$). We noted an increasing annual trend during the study period in the frequency of assault-related facial injuries during Christmas.

Conclusions. Our data suggest that the rate of assault-related facial trauma during Christmas is significantly greater compared with that for both the Easter holiday period and the baseline presentation rate. The “season of goodwill,” therefore, does not appear to manifest in a reduction in the rate of assault-related facial injuries. This increased trauma workload requires strategic planning to ensure adequate clinical cover for these anticipated busy periods. (Oral Surg Oral Med Oral Pathol Oral Radiol 2016;121:e139-e142)

The University Hospitals Leicester (UHL) provides maxillofacial services to a catchment population of approximately one million within Leicestershire and Rutland. The county has a diverse population demographic, and the city of Leicester hosts two large universities with their large term-time student populations. The UHL services a large urban and rural catchment area of roughly 2000 km², and thus the maxillofacial trauma caseload is significantly large.

Previously published UK data on maxillofacial trauma suggest that over 4% of all Emergency Department (ED) attendees had sustained a facial injury. Of these patients, approximately one-third required admission to a maxillofacial unit. The estimated incidence rate was 832 facial injuries per 100,000 of the population. When stratified by mechanism, falls accounted for the majority (40%), followed by assault (24%), sporting injuries (21%), and road traffic accidents (5%). The commonest age group was 15 to 25 years.¹

Studies exploring the patterns of presentation resulting from interpersonal violence (IPV) have

previously shown increased rates on the eve of public holidays as well as at weekends.² However, the rate of maxillofacial trauma resulting from assaults during a public holiday period has not been explored.

It has been previously documented that health-related morbidity peaks over the Christmas holiday period, and the explanations for this phenomenon include over-indulgence and increased emotional stressors. Important conditions previously researched include the “Merry Christmas Coronary” and “Happy New Year Heart Attack” and various respiratory presentations, including increased frequency of chronic obstructive pulmonary disease exacerbations.³⁻⁵

Traditionally, the 12 days of Christmas comprise the days spanning Christmas day and the 12th night which falls on the evening of January 5. This festive period is commonly held to represent a season of goodwill. In terms of the rate of presentation of facial trauma secondary to IPV, the questions are: How much goodwill is really in evidence during Christmas? Does this manifest itself in lower rates of facial injuries caused by

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Statement of Clinical Relevance

The so-called season of goodwill does not appear to manifest in a reduced rate of assault-related facial injury. Our data have highlighted significantly increased seasonal workload in the maxillofacial unit, which requires adequate provision of resources.

assaults during the festive season? Furthermore, to what extent could this inform the provision of maxillofacial services at this time of the year?

We explored the possible relationship between rates of facial injuries secondary to assault and a potential seasonal holiday influence on individual behavior during Christmas. We compared presentations during the 12 days of Christmas with comparable periods over the Easter holiday season. Additionally, we compared presentation rates for both the Christmas and Easter holiday periods with a baseline presentation rate at our institution.

MATERIALS AND METHODS

We performed a retrospective analysis of consecutive patients presenting to the emergency department at our institution with maxillofacial injuries secondary to assault, between December 25 and January 5. We considered Easter presentations to be those recorded during a 12-day period inclusive, culminating on Easter Monday bank holiday. The baseline caseload was derived from a 12-day control period in the month of August. Data were collected for 4 consecutive years beginning with 2010.

Relevant data were collected from coded emergency department records and departmental databases. We primarily explored the relationship between seasonal variation (Christmas vs Easter) and the frequency of maxillofacial injury presentations. Secondly, we compared both holiday seasons with the rate of presentation during our selected control period. Additionally, we looked at the rates of soft tissue versus hard tissue facial trauma during the study periods and stratified our data on the basis of yearly injury frequencies.

Data were analyzed using parametric statistical methods, testing a null hypothesis that the probability of a patient presenting with facial trauma during the Christmas period would not differ from that during the Easter or control periods. Analysis of variance (ANOVA) with post hoc testing was used to compare mean differences in frequencies of presentations during the Christmas, Easter, and control periods. A *P* value < .05 was considered significant. Cases of maxillofacial trauma during the study period where IPV or assault were not clearly documented were excluded from the analysis.

RESULTS

We identified 440 patients who presented with maxillofacial injuries resulting from assault during our study periods. Of these, 194 occurred over the Christmas season, 132 during the Easter period, and 114 during the control period. ANOVA highlighted a significant difference in the mean rates of presentation among the three periods ($F = 9.4$; $df = 2$; $P = .006$), which refuted the null hypothesis that there is no seasonal difference

Table I. Mean and median presentation rate for assault-related facial injuries over a 12-day period between 2010 and 2013

Period	Mean	Median	Standard deviation (SD)
Christmas	48.50	47.00	6.19
Easter	33.00	34.00	9.20
Baseline	28.50	29.50	4.04

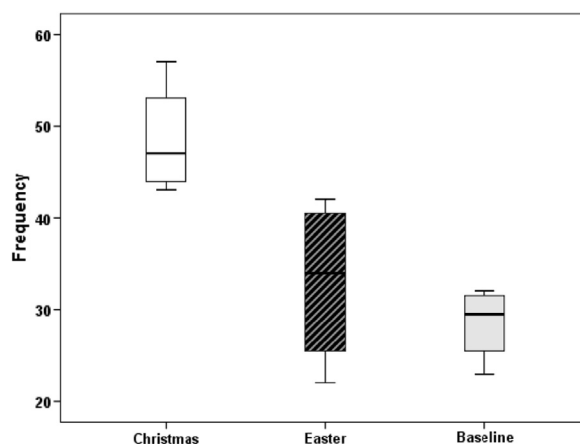


Fig. 1. Cumulative maxillofacial injuries caused by assaults over the Christmas, Easter, and baseline periods.

in the probability of an individual presenting with assault-related facial injury.

The mean ages in the Christmas group, Easter group, and control group were 29 years (SD 10), 30 years (SD 12), 26 years (SD 9) respectively ($P > .05$). The mean yearly presentation rate over the 12 days of Christmas, Easter, and baseline are summarized in Table I. The pooled distribution of data over the study periods is illustrated in Figure 1. The variance in presentations was found to be statistically significant for Christmas versus Easter (49 [SD 6.1] versus 33 [SD 9.2]; 95% confidence interval [CI] 2-29; $P = .03$), and Christmas versus baseline (49 [SD 6.1] versus 29 [SD 4.1]; 95% CI 11-29; $P = .02$). Although the mean presentation rate was higher during the Easter season compared with baseline, this variance did not reach statistical significance ($P > .05$). The frequencies of facial injuries in the Christmas, Easter, and control periods, when stratified by year of presentation, are displayed in Figure 2. There appears to be a positive trend in the frequency of IPV-related facial injuries over Christmas with a relative decrease in Easter presentations over the corresponding period.

In patients who sustained facial injuries during the Christmas period, 64% ($n = 124$) had facial soft tissue injuries, and 21% ($n = 41$) had sustained hard tissue injuries. The remainder had suffered combined-type

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