GETTING BETTER IN THE FIGHT AGAINST COMMUNITY VIOLENCE

A NEW HOPE? ARE PREDNISOLONE SKIN DEEP?

Background Community violence remains a significant and worrying element of society. This is especially true among children, where most cases are teenager-on-teenager violence occurring near schools. Emergency departments (EDs) can play a vital role in protecting victims from further harm by referring them to safeguarding agencies. A previous audit (2010) from the University Hospital of Wales’ ED revealed only 3% of paediatric community violence victims under the age of 16 were referred.

Aim To review the ED’s current response to children injured in community violence.

Methods Records were sourced using Cardiff Model data. ED records of children (<18 years) who presented over 2 years were reviewed for documented referral to ‘protection’ agencies. The audit standard was that a referral should have been made to: the school nurse if the child was in education; social services if there was a Safeguarding concern, or they were already involved; or the police if an adult committed the assault or a weapon was used.

Results 291 children were victims of alleged assault. When the details were documented, the commonest assault was in the street (46.4%), committed by a child (50.1%), using fists/hands (44.3%) causing soft tissue injuries (51.2%). Serious harm (fracture or hospital admission) occurred in 38 cases (13.1%). Overall, 165 (56.7%) children were referred to at least one protection agency – however it varied by age (table 1). Those not referred included assaults involving drug abuse, weapons and teenage pregnancies.

<table>
<thead>
<tr>
<th>Age range of victims</th>
<th>Number of victims</th>
<th>% referred if required by the standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–5</td>
<td>1</td>
<td>Social services 100</td>
</tr>
<tr>
<td>6–9</td>
<td>7</td>
<td>Social services 100</td>
</tr>
<tr>
<td>10–13</td>
<td>68</td>
<td>Social services 75.9</td>
</tr>
<tr>
<td>14–15</td>
<td>88</td>
<td>Social services 76.5</td>
</tr>
<tr>
<td>16–17</td>
<td>127</td>
<td>Social services 23.6</td>
</tr>
</tbody>
</table>

Conclusion Improvements in referrals of child violence victims have occurred, but some remain vulnerable to harm including further assaults and mental health conditions. Recommendations following this audit comprised a revived focus on documenting alleged assault details and referring incidents involving older children and weapons.

A NEW HOPE? ARE PREDNISOLONE’S DAYS NUMBERED AS THE FORCE AWAKENS TO DEXAMETHASONE AS THE STEROID OF CHOICE IN THE TREATMENT OF ACUTE ASTHMA IN CHILDREN

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Aims The Aims of this report were to compare the level of care provided by our A and E department in relation to the standards from the 2016 BTS guidelines for the management of acute asthma. In addition we report the use of dexamethasone as our new first line choice of steroid.

Methods This is an audit of the children presenting to our hospital during the period between 1st November 2016 and 30th June 2017 with a coded diagnosis of asthma. The data was collected retrospectively and included children between the ages of 2 and 16 years of age. We assessed time to triage, correlation of triage to actual BTS classification of asthma, length of stay, combination of therapies and follow up. The data was compared with the previous audit.

Results 404 asthma presentations between the 01/11/16 and 31/06/17.

124 episodes (twice as many as the previous audit) resulted in admission (99 under A and E clinicians to our emergency decision unit (EDU) and 25 admitted to the medical team).

The correlation of triage colour and severity assessment on examination was approximately 92.4%

2.4% of patients became sicker as a result of waiting longer than their triage recommended.

The average length of stay when admitted under the emergency team to the EDU was 6 hours and 58 min. When admitted under the medical team, the average length of stay was 3 days 16 hours and 33 min.

94.4% of patients were treated correctly compared with the BTS guidelines.

EDU has decreased our medical admissions by 80%

There were no admissions from our A and E department to ITU during the audit period.

Within 6 months prednisolone was phased out and only patients with specific care plans were using it.

Conclusions We are operating to a high standard adhering to the BTS guidelines.

Dexamethasone is a well tolerated and cheaper alternative to prednisolone- exact figures for savings are being calculated.

Triage continues to be a point of excellence for this emergency department.

Over half of the children seen in this audit cycle were given follow up in an asthma nurse specialist or consultant led clinic.

SKIN DEEP? A CASE OF PSEUDOCROMHIDROSIS PRESENTING TO THE CHILDREN’S ASSESSMENT UNIT (CAU)

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Introduction

- Chromhidrosis is a rare disorder beginning in puberty, characterised by the production of coloured sweat from sweat glands containing an increased number of lipofuscin pigments.
Pseudochromhidrosis is the result of colourless perspiration that acquires colour when it reaches the skin and comes into contact with an external chromogen such as chromogenic bacteria (for example Corynebacterium species), fungi or dye from clothing.

Pseudochromhidrosis can present with a variety of colours depending on the aetiology. Involvement of the face, palms, or neck is most frequently reported, although it can present anywhere on the body.

Case

A fifteen year old boy with no significant past medical history was referred to CAU with three weeks of developing blue/grey patches intermittently on his skin.

These episodes occurred daily with differing distributions, not coinciding with a particular time of day, nor a particular activity level.

Examination revealed blue/grey patches on the patient’s hands and elbows bilaterally.

Thorough examinations, observations and haematological/biochemical investigations to identify a cause of presumed cyanosis were all normal.

Bacterial and fungal cultures of the skin were negative.

The affected areas were wiped with a damp cloth – there was evidence of blue/grey staining on the cloth following this.

Given the patient was systemically well, the transient nature of episodes and being able to wipe the coloured fluid from the skin, a preliminary diagnosis of pseudochromhidrosis was made.

Formal diagnosis has been challenging as the patient is reluctant to undergo further investigations, including skin biopsies. In the interim, he is using antiseptic skin scrubs to help control episodes.

Learning points

- There are no known causes or associations for (pseudo) chromhidrosis.
- Diagnosis of chromhidrosis is made through identifying lipofuscin granules in a skin biopsy. Pseudochromhidrosis is a clinical diagnosis based on exclusion of chromhidrosis.
- Evidence regarding optimal therapy is limited. Satisfactory management remains challenging.
- The prognosis is good if the extrinsic cause is identified and the inciting factor (such as chromogenic bacteria) is eliminated.
- Systemic and topical antibiotics, as well as topical antiseptic scrubs, are the mainstay of treatment for pseudochromhidrosis.
- There are no known medical sequelae other than social embarrassment and psychological stress.

Aims To assess the utility of a validated clinical risk score (Brent et al. 2012) to stratify febrile children presenting to the emergency department, as high or low risk of serious bacterial infection (SBI). To further assess clinician’s gut feeling in identifying those children with SBI.

Methods A prospective cohort study of children aged <17 years presenting to a children’s emergency department, with an actual or reported temperature >37.5°C and requiring blood tests as part of their medical management, were recruited between February 2014–January 2017. For each participant the validated clinical risk score was completed using triage and clinician documentation. Clinician’s ‘Gut feeling’ was recorded prior to results review and management plan formulation. SBI was defined according to criteria described by the original validation study. Final diagnoses were assigned as definite/probable bacterial or viral infection or indeterminate.

Results 200 children were recruited, 9 subsequently excluded, leaving 191 (median age 2.1 years (IQR 0.9–4.2) for analysis. 164 (85%) participants had scores ≤5 suggesting low risk of SBI. Of these 46/164 (29%) had SBI. 8 participants had high risk scores >8 suggestive of an SBI and of these only 4/8 (50%) had an SBI. Where clinician’s gut feeling was recorded as ‘No SBI’, 49% (34/69) of children had a bacterial infection. Where clinician’s gut feeling was recorded as ‘not sure/possibly’ for SBI, 21% (22/104) had bacterial infection. Analysis of blood markers revealed total WCC and neutrophil count were not useful discriminators of SBI (AUC WCC 0.6, neutrophils AUC 0.7.) CRP was significantly higher in the groups definite and probable bacterial infection [(AUC CRP 0.86 (p<0.0001)].

Conclusions The validated clinical risk score for SBI did not effectively ‘rule out’ or ‘rule in’ serious bacterial infection in this cohort. Clinician’s gut feeling was not helpful in identifying definite bacterial or probable bacterial infection. As anticipated CRP was a useful indicator of bacterial infection but has limitations as it is used as part of the categorisation of serious bacterial infection.

**G345(P)**

**IDENTIFYING CHILDREN AT RISK OF SERIOUS BACTERIAL INFECTION IN THE EMERGENCY DEPARTMENT: RISK SCORES AND GUT FEELING**

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**G346(P)**

**DRIVING UP STANDARDS AND MINIMISING RISK: RELIEVING THE BURDEN OF JAUNDICE MANAGEMENT IN THE EMERGENCY DEPARTMENT (ED)**

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Conclusion and recommendations Using our data and incorporating DATIX and SI reporting, we secured financial and managerial investment to implement our recommendations. Our primary intervention was the creation of an in-hours nurse-led jaundice clinic. This alternative pathway is intended to relieve burden in ED and facilitate access to faster assessment and treatment. For patients presenting out of hours, we improved point of care testing by obtaining a transcutaneous bilirubinometer and recalibrating the blood gas analyser to improve accuracy thus removing the need for processing lab serum samples. Education targeted at triage nurses in ED has enabled them to initiate basic investigations and management whilst awaiting medical assessment. Going forward, we have also been able to secure an application for a Biliblanket which will aid the timely administration of phototherapy in ED.

A re-audit of three months of data following implementation of these initiatives has shown a 56% reduction in mean waiting time for bilirubin results and 49% reduction in mean time spent in ED. This project highlighted the benefit of a multifaceted approach to quality improvement, incorporating multiple pillars of clinical governance to advance patient care.

**G347(P) IMPLEMENTING CLINICAL PATHWAYS IN A PAEDIATRIC EMERGENCY DEPARTMENT**

**Background** Despite the fact that evidence based guidelines are widely available adherence to them remains unsatisfactory. Embedding guidance and decision support into clinical work processes at the bedside might improve this.

**Aim** We turned eight existing clinical guidelines into clinical pathways embedded in paediatric Emergency Department (ED) workflow, which obviates the need to learn or look up a guideline, and gives clinical decision support at the bedside. We hypothesise that this would improve guideline compliance and reduce unwarranted clinical variation.

**Methods** Clinical pathways were created for the most common and/or important presentations to paediatric ED, namely ‘The child with a limp’, ‘The Child with Stridor’, ‘Diarrhoea and Vomiting; reduced reattendances from 29% to 0%; more appropriate use of prednisolone and reduced requests for chest x-rays (for wheeze); increased urine sampling from 28% to 52% and more appropriate admissions and halved readmission rates for diarrhoea and vomiting; reduced readmissions from 22% to 0% for stridor; reduced admission rate from 75% to 40% for febrile convulsion.

**Conclusion** The creation of clinical pathways, embedding existing clinical guidelines into routine care processes, have improved guideline adherence, improved clinical outcomes and reduced clinical variation.

**REFERENCE**