Abstract

Introduction: Epistaxis is a common problem occurring at least once over the life time in up to 60% of the general population of those affected, smaller group will have recurrent or habitual epistaxis in pregnancy with relation to post partum hemorrhage.

Objective: This study aimed to estimate the prevalence of epistaxis among pregnant women and its relation to post partum hemorrhage.

Type of the Study: Cohort study.

Results: There was statistically significant difference between incidence of post partum hemorrhage between patients with epistaxis of pregnancy and patients with no epistaxis of pregnancy.

Conclusions: Epistaxis is not common problem in pregnancy, but epistaxis with pregnancy increase incidence of post-partum hemorrhage.

Key Words: Epistaxis – Incidence – Post partum hemorrhage.

Introduction

EPISTAXIS is a common problem occurring at least once over the life time in up to 60% of the general population [1]. Of those affected, an smaller group will have recurrent or habitual epistaxis because studies have suggested that these individuals are at increased risk of disorder hemostasis [2]. Family physicians frequently encounter patients with epistaxis in rare cases, this conditions may lead to massive bleeding, although epistaxis can have an anterior or posterior source, in the anterior nasal cavity, it most often originates.

The causes of nosebleeds can generally be divided into two categories, local and general factors, although a significant number of nosebleeds occur with no obvious cause.

Local factors:

Blunt trauma (usually a sharp blow to the face such as a punch, sometimes accompanying a nasal fracture), foreign bodies.

Inflammatory reaction (e.g. acute respiratory tract infections, chronic sinusitis, rhinitis or environmental irritants).

Other possible factors:

Anatomical deformities (e.g. septal spurs or hereditary hemorrhagic telangiectasia).

Insufflated drugs (particularly cocaine) Intra-nasal tumors (e.g. nasopharyngeal carcinoma or nasopharyngeal angiofibroma).

Low relative humidity of inhaled air (particularly during cold winter seasons) [3]. Evidence to support this however is weak [4,5].

A directed history and physical examinations generally determine the cause of the bleeding. The rich vascular supply of the nose originates from the branches of the internal carotid arteries and the facial and internal maxillary divisions of the external carotid arteries. It is commonly believed by obstetricians that the prevalence of epistaxis in pregnancy is in increased than of the general non pregnant population. This observation has been attributed to estrogen-associated vascular congestion and mucosal edema [6]. Obtaining a history of epistaxis has become an important preoperative tool for identifying those who may be at risk of significant intra operative bleeding [7]. It remains unknown if epistaxis of pregnancy is associated with disordered hemostasis and if it might be predictive of increased risk for obstetric hemorrhage.
Objective:
This study aimed to estimate the prevalence of epistaxis among pregnant women and a population of reproductive-aged nonpregnant women. A second aim was to determine the relationship between epistaxis of pregnancy and postpartum hemorrhage. Given that epistaxis during pregnancy is thought to be associated with local nasal mucosal and vascular changes, rather than an underlying bleeding disorder.

Type of the study:
Cohort study.

Patients and Methods
A list of 415 pregnant patients admitted to labor room for delivery at Obstetrics and Gynecology Department of Aswan University Hospital and 205 non pregnant patients attend the outpatient clinic of Aswan University Hospital from Jan. 2015 to Aug. 2015. The pregnant woman’s age ranged from (30-42) year with gestational age ranged from 36-40 weeks. The non pregnant woman in the reproductive age ranged from (28-48) year. An formed consent (written consent) was obtained from all patients. All patients were entire filling out an 20 question survey including the patients obstetric history previous history of epistaxis and medications as an non-steroidal anti inflammatory and other questions patients with known bleeding or clothing disorder, pregnancy induced hypertension must be excluded. Needs for ultrasonic agents beyond routine or need for blood transfusion during labor mode of delivery and type of anesthesia, bleeding an all statistical data analysis was carried out using SPSS for Windows, 16.0 (SPSS Inc., Chicago, IL). All data were transformed into categorical data and the χ² test used to compare the prevalence of epistaxis between pregnant and nonpregnant participants as well as to compare rates of postpartum hemorrhage between pregnant women with and without epistaxis. Odds ratios with 95% confidence intervals were calculated. Univariate analysis was also performed using the χ² test for comparison of other study variables between pregnant women with and without a history of epistaxis: History of seasonal allergies, recent respiratory infection, easy bruising, patient’s blood type and delivery mode. If significant differences were identified in the univariate analysis, a logistic regression analysis was planned to assess the effect of those variables on postpartum hemorrhage. For all statistical analysis a 𝑝<.05 was considered statistically significant. Women were considered to have epistaxis of pregnancy if they had a history of two or more episodes of epistaxis during their pregnancy. Post partum hemorrhage was defined as estimated blood loss greater than 500ml for a vaginal delivery or greater than 1000ml for cesarean delivery and affecting the general condition of the patients. The primary outcomes were (1) Rates of epistaxis in pregnant compared with non pregnant women, and (2) Rates of postpartum hemorrhage in women with epistaxis compared with those without.

Results
Final data analysis were performed on 415 pregnant patients and 205 non pregnant patients.

Table (1): Patient’s age among the pregnant patients.

<table>
<thead>
<tr>
<th>Range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient age</td>
<td>30-42</td>
</tr>
</tbody>
</table>

This table shows that the average age (±standard deviation) between pregnant woman were (36±6) year.

Table (2): Patient’s age among the non pregnant patients.

<table>
<thead>
<tr>
<th>Range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients age</td>
<td>28-48</td>
</tr>
</tbody>
</table>

This table shows that the average age (±standard deviation) among non-pregnant woman were (38±10) year.

Table (3): Gestational age of pregnant patients.

<table>
<thead>
<tr>
<th>Range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gestational age</td>
<td>36-40</td>
</tr>
</tbody>
</table>

The a verge gestational age (±standard deviation) were (38±2) weeks.

Table (4): Method of termination of pregnancy.

<table>
<thead>
<tr>
<th>Method of termination</th>
<th>Number</th>
<th>Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal delivery</td>
<td>277</td>
<td>66.75%</td>
</tr>
<tr>
<td>Cesarean s.</td>
<td>138</td>
<td>33.25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>415</td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Pregnancies terminated by cesarean section were 33.25% in relation to vaginal delivery 66.75%.

Table (5): Incidence of epistaxis among non-pregnant and pregnant patients.

<table>
<thead>
<tr>
<th>Number</th>
<th>Incidence of epistaxis</th>
<th>Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non pregnant</td>
<td>205</td>
<td>4</td>
</tr>
<tr>
<td>Pregnants</td>
<td>415</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>
There is no statistical difference with significant between incidence of epistaxis between pregnant and non pregnant patients.

Table (6): Incidence of post partum hemorrhage between patients with epistaxis of pregnancy and those without epistaxis of pregnancy.

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epistaxis of pregnancy</td>
<td>1</td>
<td>10.0%</td>
</tr>
<tr>
<td>Non</td>
<td>21</td>
<td>5.07%</td>
</tr>
</tbody>
</table>

There was statistically significant difference between incidence of post partum hemorrhage between patients with epistaxis of pregnancy and patients with no epistaxis of pregnancy.

**Discussion**

In this study, the incidence of epistaxis were 1.95% in non pregnant patients and 2.40% in pregnant patients. This incidence is low in relation to other studies [8]. Who found that pregnant woman were significantly more likely to have epistaxis with pregnancy incidence of 20.3% and in non pregnant patients were 6.2% ($p$-value <0.001) this maybe due to geographical distribution. These result also is low in relation to Saurabh et al., [10] who found that epistaxis occurred in up to 60% of population and only 6% of this people seek medical attention. Epistaxis reportedly occurs more frequently in dry, cold winter months, and more frequently in males than females. In this study there was no statistically significant difference between incidence of epistaxis in pregnant and non pregnant patients. This result is in agree with other study [9]. Who resulted in his study that pregnancy is not associated with an increased prevalence or severity of nasal symptomatology including epistaxis. His result concluded that there was no statistically significant difference in the prevalence of congestion, epistaxis, rhinorrhea, or acute sinusitis. There was no statistically significant difference in the severity of any presenting symptom between pregnant and control group patients.

This result is disagree with Dugan et al., [8]. Who concluded that epistaxis is a common problem during pregnancy that may be associated with an increased risk of postpartum hemorrhage. As in the non-pregnant population, eliciting a history of active nosebleeds may help to identify women at increased risk for disordered hemostasis. With this in mind, obstetricians and obstetric anesthesiologists may be better able to prepare for postpartum hemorrhage, for example by obtaining preoperative blood bank specimens and having uterotonics readily available in the delivery room. Further studies are planned to elucidate the underlying mechanisms for this disordered hemostasis. There is no statistically significant difference between pregnant and non pregnant in incidence of epistaxis and there is statistically significant difference between those with epistaxis of pregnancy and those with no epistaxis of pregnancy in incidence of (PPH).

**Conclusions:**

Epistaxis is not common problem in pregnancy. As in the nonpregnant population, eliciting this history of active nosebleeds may help to identify women at increased risk for disordered hemostasis. With this in mind, obstetricians and obstetric anesthesiologists may be better able to prepare for postpartum hemorrhage, for example by obtaining preoperative blood bank specimens and having uterotonics readily available in the delivery room. Further studies are planned to elucidate the underlying mechanisms for this disordered hemostasis.

**References**

الملخص العربي

يعتبر الرعب من أكثر الأمراض شيوعًا. فقد يحدث مرة على الأقل أثناء الحياة في أكثر من 1/6٪ من الناس.

الهدف من البحث: دراسة نسبة الإصابة بمرض الرعب بين النساء الحوامل وحول هناك علاقة بين الرعب أثناء الحمل والإصابة بالنزيف ما بعد الولادة.

أسلوب البحث: شملت الدراسة على 415 مريضة حامل دخلت المستشفى أثناء الولادة، فقد تم تدقيق تواجدها بالعوامل الخارجية وتم سؤال المرضى عدة أسئلة أهمها عدد مرات حدوث الرعب وقد تم ملاحظة المرضى بعد الولادة لوجود نزيف ما بعد الولادة.

وانتخب من الدراسة أنه لا يوجد فرق إحصائي يعتمد فيه في نسبة حدوث الرعب بين المرضى الحوامل وغير الحوامل ولكن يوجد هناك فرق يعتمد به إحصائيًا بين الإصابة بتزيف بعد الولادة في المرضى الذين يعانون من الرعب أثناء الحمل.

الرعاب أثناء الحمل يزيد من نسبة حدوث نزيف ما بعد الولادة.