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Case Report

Neglected Uterovaginal Prolapse: The Role of Honey in Preoperative Management

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Abstract

Utero-vaginal prolapse sometimes referred to as Pelvic organ prolapse (POP) is a disease in which one or more of the female pelvic organs, such as the bladder, uterus, vaginal cuff, rectum and intestines, descend through the vagina. The prevalence varies from one study to another. It becomes neglected when there is prolonged procidentia, ulceration and or necrosis, excruciating pain, renal compromise, depression and poor quality of life. Meanwhile, honey has been in use as a wound dressing agent for many years, but documentation on its use in the preoperative management of neglected uterine precedential is very limited. This paper presents a case of 50-year-oldwoman with neglected utero vagina prolapse, who had a successful preoperatively management with locally purchased fresh honey.

Keywords: *Neglected; Uterovaginal Prolapsed; Honey; Pre-Operative Management*

Abbreviations

POP: Pelvic Organ Prolapse; PFME: Pelvic Floor Muscle Exercise; MIC: Mean Inhibitory Concentration

Introduction

Utero-vagina prolapse sometimes referred to as Pelvic organ prolapse (POP) is a disease in which one or more of the female pelvic organs, such as the bladder, uterus, vaginal cuff, rectum and intestine, descend through the vagina [1,2]. It presents with various symptoms such as urinary incontinence, voiding dysfunction, frequency, dyschezia, pelvic heaviness, prolapsed sensation, vaginal pain and low back pain [3,4]. There are many treatment options for POP, however the subjective symptoms of the patient are important because the decision to treat POP depends on patient's discomfort, rather than its severity as assessed by physical examination[2]. The prevalence of POP in previous studies was 2.9 - 41.1% [5-8]. However, it is difficult to obtain a consistent prevalence because of differences in the definition of POP [5-9]. If symptoms are mild, pelvic floor muscle exercise (PFME) may be sufficient without additional treatment by a doctor. Even if POP is diagnosed through physical examination, treatment may not be necessary if no symptoms are present [1,10]. Therefore, it is clinically more important to confirm whether a patient visited the clinic due to physical discomfort. It is also clinically important to identify treatments modalities that require the intervention of a doctor, such as the placement of a pessary or surgery. POP becomes neglected when there is prolonged procidentia, ulceration with or without necrosis, excruciating pain, renal compromise, a feeling of depression, and poor quality of life. In such a case preoperative management to optimize the patient is necessary to improve the outcome of surgery.

Like any wound, when the procidentia is characterized by a bulky mass, inflammation, necrosis, and local sepsis, the use of topical honey daily to dress the prolapsed mass can be considered.

Case Presentation

The case was a 50-years- old P4+1 post-menopausal, who presented with a complain of protrusion of a mass from the vagina, of 3 months duration. She has been experiencing progressive sensation of lump and heaviness in the vagina for over a period of 8-months. Three months prior to presentation, the mass prolapsed while urinating and became irreducible. There was initial urinary frequency and incontinence, followed by urinary retention. She also reported Intermittent bleeding from the surface of the mass, including purulent discharged from the vagina, and surface of the mass. Other reported symptoms were fever, abdominal and pelvic pains, constipation, weight loss, limited mobility and a feeling of depression. She admitted the use several herbal medications, both topical and oral during the course of illness. She attained menarche at the age of 13 years and menstruated for 4 days in a 28 - 30-day cycle. There was no history of contraceptive use and has never been screened for cervical cancer. She has had three spontaneous vagina deliveries, one caesarean section for breech presentation and one induced abortion. Her last childbirth was 17 years prior to her presentation. She has had myomectomy two years prior to presentation and was transfused with two 2 units of blood. There were no additional co-morbidities. She reported no known food or drug allergies. Family and social history was unremarkable. On examination, she was alert and well oriented, but ill looking and in painful distress. She was febrile with a temperature of 38.8^0C. She was pale and dehydrated, but no jaundice and no edema. The respiratory rate was 22 cycles per minute, the lungs were clear bilaterally, the pulse rate was 118 beats per minute with regular rhythm and the blood pressure was 102/50 mmHg. Abdominal examination revealed a sub-umbilical midline scar with a distended bladder, filled with urine. Bowel sounds were present. Abdominal ultrasound confirmed fluid filled bladder, bilateral hydroureters and hydronephrosis. Pelvic examination revealed a huge solid mass protruding from the vaginal, which occluded the entire introitus. It was malodorous, necrotic, tender with associated contact bleeding. It measured 51 cm in circumference (Figure 1). The Perineal and gluteal regions had ulcerations and excoriation. An impression of neglected uterovaginal prolapse, complicated with urinary retention, hydroureter, hydronephrosis, anemia and sepsis was made.

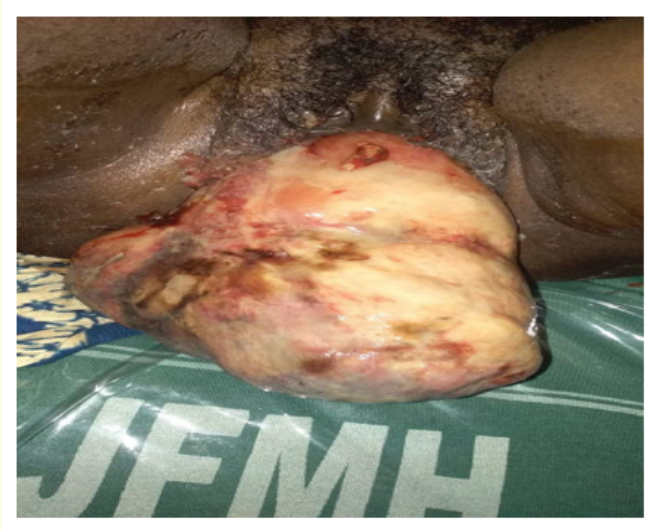

Figure 1: *Huge solid, ulcerated and necrotic mass protruding from vagina.*

Pertinent on complete blood count was a hemoglobin level of 5 grams per deciliter, white blood cells (WBC) count of 15000. Malaria smear was negative for malaria parasites. Urine microscopy showed WBC of 40 - 50 per high power field. A biopsy specimen of the mass for histopathology evaluation revealed degenerated leiomyoma.

The patient was counseled about her condition. Initially she was managed with intravenous fluid and transfused with three units of fresh whole blood over 72 hour. Intravenous ceftriaxone and metronidazole were administered for the first seven days. She was also given analgesics and hematinics during the period of optimization. The Bladder was drained initially through supra-pubic region as the urethral meatus was not assessable. Sitz bath was initiated twice a day for the first week, and this was followed by twice daily dressing of the mass with locally purchased fresh honey from the second week to the fourth week. Sterile gauze was soaked with the honey and spread over the surface of the prolapsed mass twice a day. After about three weeks of dressing with honey, the prolapsed mass reduced in circumference to 45 cm, with most of the necrotic tissues sloughed off. In addition, there was granulation and epithelization in most region of the prolapsed mass. Contact bleeding and discharges had stopped (Figure 2).

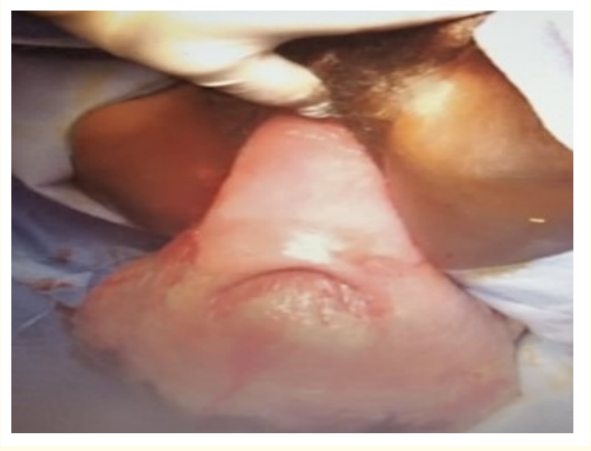

Figure 2: *The size of the mass has shrunken down to 45 cm, necrotic tissues fallen off, granulation and epithelization has occurred after three weeks of honey dressing. The cervical os is now visible.*

The urethra became visible by the third week of management. By the 4th week, a repeat abdominopelvic ultrasound showed resolution of hydronephrosis and hydroureter as well as most of the presenting symptoms. After optimization, a retrograde vagina hysterectomy was done. The finding was a prolapsed myomatous uterus with hypertrophied uterovaginal pedicles. The Patient was discharged home on post operative day five. Post operatives follow up was done on days 14 and 30 with no abnormal findings.

Discussion

Honey has been use in wound dressing for thousands of years [11,12]. Large amount of clinical evidences has been accumulated that demonstrate the effectiveness of honey in this application [13,14]. Recently, the science supporting its potency or efficacy has become available. It contains physical and bioactive components that can expedite healing process of wounds. The physical property is attributed to its acidity that creates a low PH of 3.2 - 4.5 [15,16] which positively impart wound healing by creating less favorable environment for protease activity [17]. In addition, the sugar content in honey creates a high level of osmolality drawing out water not only from the wound but also bacteria cell [18,19]. This physical attribute worked well in our patient wherein the precedential after the treatment with honey had shrunken in size from 51 cm to 45 cm and necrotic tissue and malodorous discharge as evidences of infection had reduced.

In addition, bioactivity within the honey itself allows for continuous inhibition of bacterial growth even at low osmolality. This increase bioactivity has antimicrobial and other properties of wound healing as supported by randomized clinical trial [20,21]. The bioactivity can firstly be attributed to its anti-inflammatory action. Pedanius Dioscorides used honey to treat sunburn and spots on the face, as well as to heal inflammation of the throat and tonsils [22]. In clinical trials on burns comparing honey with silver sulfadiazine, honey showed decreased levels of the markers for inflammation, as well as reduced number of inflammatory cells present in biopsy samples. The anti-inflammatory activity in honey was initially thought to be attributed to the presence of phenolic compounds that inhibit the production of the inflammatory cytokine TNF-α [23,24]. More recently, anti-inflammatory bee derived protein (apalbumia-1) component of honey has been identified [25]. This is true for our patient wherein after two weeks of honey dressing all signs of inflammation associated with the procidentia including edema, pain and tenderness and increase discharge had significantly reduced, although this was not evident by biopsy to show reduced number of inflammatory cells or markers.

Another bioactivity of honey is its antimicrobial activity. The antimicrobial activities can be attributed to its high osmolality and acidity as stated earlier in its physical properties and to a larger extent the presence of hydrogen peroxide [11]. Studies on the mean inhibitory concentration (MIC) value was of honey was found to be below 11% as compared to the standard reference of antiseptic phenols with MIC of 13% to 18% weight per volume [21,22]. George and Cutting further strengthened the above study in which 130 clinical isolates of multi-resistant gram-negative bacteria were determine to be sensitive to standardized honey at a MIC value of 6% to 8% [26]. Honey from manuka trees has a unique type of antibacterial activity because of a compound called methylglyoxal that is not affected by catalase [27]. In one observational study where 20 patients with spinal cord injuries who had chronic pressure ulcers (5 had grade IV ulcers and 15 had grade III ulcers) were treated with manuka honey [26] and after 1 week of treatment all swabs were void of bacterial growth, and after a period of 4 weeks, 18 patients showed complete wound healing. Overall, ulcer pain and size decreased significantly and odorous wounds were deodorized promptly. A further study [27] showed a group of 8 patients with non healing or recurrent venous leg ulcers treated with manuka honey healed with accelerated wound closure. Although the honey used in this case was locally purchased, we could not determine whether it was from manuka tree nor study it to find out whether it contains Methylglyoxal or hydrogen peroxide and other antibacterial components as stated in the above observational studies, but with clinical evidences of decrease inflammation and infection of the prolapsed uterus we can confidently say honey has an antimicrobial activities on clinical grounds.

In addition, honey has immune stimulatory activity and debriding action. Although anti-inflammatory action of honey will to some extent attenuate the immune response but the overall immune-stimulatory activity will lead to wound healing by helping suppress infection and stimulate growth and repair of tissue [13,14]. This immune-stimulatory activity of honey has been attributed to; major royal jelly protein-1 (MRJP-1), arabinogalactan, endotoxin contaminant in honey, and an unidentified substance of molecular weight 5.8 kDa [28]. Generally, these molecule stimulate re-epithelization by stimulation of keratinocytes, IL-B, and TGF alpha as well as angiogenesis. Mechanism of debridement of wounds has recently been [29] hypothesized by increase plasmin activity. Debridement of wounds using honey dressings has been observed in clinical trials on burns [30,31]. In the case of this uterine procidentia, there was remarkable debridement and or sloughing off the necrotic tissue of the prolapsed uterus, with granulation and subsequent epithelization after two to three weeks of honey dressing. Again, we were not able to determine whether our locally purchased honey contained these immune stimulatory and debriding components but the clinical course during the preoperative management made us to concur on the immune stimulatory and debriding properties of honey as seen in figure 2 above.

Conclusion

Uterovagina prolapsed is a common gynecological condition. Prolong procidentia can lead to ulceration, necrosis and or gangrene, excruciating pain, renal compromised depression and poor quality of life and in such case it's considered neglected. Pre-operative dressing of an ulcerated and necrotic uterovaginal prolapsed with honey has favorable outcomes like many other surgical wound as well as cost ef-

fective. From a clinical perspective, there is a vast amount of evidence to support the use of honey in wound care. Although some argue the absence of high quality controlled or comparative randomized studies but when clinical evidence of the highest level is not available, then decisions on modes of treatment need to be based on whatever evidence is available. Therefore, we conclude that the available evidences support the use of honey in wound cares including those of neglected utero vagina prolapsed.

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