

EPISODE OF SYNCOPE IN A PREGNANT WO- MAN AFTER APPLICA- TION OF BENZETACIL IN A BASIC HEALTH CARE UNIT: CASE REPORT

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Abstract: An 18-year-old patient, 37 weeks pregnant, was treated for hypodermia by two students to comply with the syphilis protocol, which consists of administering, intramuscularly, two doses of benzetacil (benzathine penicillin), one on each dorsogluteal surface, once a week for three consecutive weeks. After applying the drug, the patient reported feeling dizzy and nauseated, and was instructed to sit down. On the way, the chair next to her felt faint, being held by the preceptor and regaining consciousness seconds later, she reported not remembering anything that had happened and that she had never experienced anything similar. Given what happened, there was a discussion of the causes and what procedures would have to be carried out if the students were alone or the pregnant woman did not regain consciousness. This resulted in a bibliographical survey of data on the subject. Concluding that the episode was possibly caused by the pregnant woman's previous hypotension in conjunction with inadequate nutrition and walking in the sun to the UBS.

Keywords: Pregnant women, syncope and primary health care

INTRODUCTION

An 18-year-old pregnant woman who presented herself to the hypodermia of a Basic Health Unit (UBS) to begin the syphilis treatment protocol, which consists of administering two doses of benzetacil once a week for three consecutive weeks, was treated by the two students responsible for treating hypothermia that day. The entire protocol for preparing and applying the treatment was done correctly and under supervision. However, after the intramuscular application of the second dose of benzathine penicillin, the patient reported dizziness and developed pre-syncope and syncope, being helped by the students and the preceptor who was present.

Based on this report, there was a bibliographical survey of data in order to resolve doubts about whether there is a relationship between the drug used in the case and the syncope presented by the pregnant woman, other possible causes and how the patient would have to be helped if she did not regain consciousness.

MATERIAL AND METHODS

The study is characterized by a case report based on a situation experienced by two students during a medical internship at a UBS in São José dos Campos. From this, a bibliographical research was carried out on articles published since 2015, taken from the Virtual Health Library, Pubmed and SciELO databases.

RESULTS AND DISCUSSION

While working at a UBS in São José dos Campos, two sixth period students, responsible for staying in the hypodermia sector, received an 18-year-old patient in the sector to comply with the syphilis protocol. The protocol consists of administering, intramuscularly, two doses of benzetacil (benzathine penicillin), one on each dorsogluteal surface, once a week, for three consecutive weeks.

The patient had an unplanned pregnancy of 37 weeks with her first child, and reported having only hypotension, which she acquired during pregnancy. Starting the application, the procedure was explained to the patient, then the medication was prepared. Then, after cleaning the area, they applied it correctly to both glutes, that is, following the markings of the gluteal quadrants, applying it in the center of the upper lateral quadrant. Both processes carried out by one of the students, guided and supervised by the responsible preceptor. After the process described, the patient reported feeling dizzy and nauseated,

and was instructed to sit down. Soon after, she developed syncope. The preceptor who was next to her held her, sitting on the chair to be able to support the young woman, so that the patient's belly fit between her legs and did not suffer trauma. Medical support was immediately requested. After a few seconds, the patient regained consciousness, calmly got up and sat down. She reported not remembering anything that had happened and that she had never experienced anything similar.

She also explained that she had not eaten well before leaving home, only drinking a glass of juice, and furthermore, she stated that she had walked to the UBS. She remained seated, ate cookies and coffee, and had her blood pressure checked, which returned to normal. The patient received instructions and, as she had gone to the UBS alone, the health unit driver, together with a nurse, was asked to accompany her by car to her home, in case she did not feel well on the way.

Syphilis is a sexually transmitted infection caused by *Treponema pallidum*. Pregnancy itself does not modify either the symptoms or the natural evolution of the disease for the mother, however, without treatment, the risk of fetal infection varies from 30-60% depending on the clinical stage of the disease, and can reach 70-100%. % in the primary or secondary syphilis phases. Benzathine penicillin is the first-choice treatment for the treatment of syphilis for both pregnant women and the general population and is the only safe and effective option for adequate treatment of pregnant women, as it is the only safe medication that crosses the placental barrier, treating also the fetus (3). Its dosage and period of use are divided according to the stage of the disease the individual is in (table 1).

| Clinical Internship | Therapeutic Scheme |
|---|--|
| Recent syphilis (lasting less than one year): Primary, secondary or recent latent. | Benzathine Penicillin G 2,400,000 IU, intramuscular, single dose (1,200,000 IU in each gluteal region). |
| Late syphilis (lasting more than one year): Tertiary or late latent/ undetermined duration. | Benzathine penicillin G 2,400,000 IU, intramuscular weekly for 3 weeks. Total dose: 7,200,000 IU |
| Neurosyphilis | Crystalline penicillin 18-24 million IU/day, intravenously, administered in doses of 3-4 million IU, every 4 hours or by continuous infusion, for 14 days. |

Table 1: Syphilis Treatment

Source: Adapted from Ministry of Health.

Fernandes Figueira National Institute of Women, Children and Adolescent Health (IFF/ FIOCRUZ). SYPHILIS IN PREGNANCY. 2022. [Accessed on: 16/09/2022] Available at: https://portaldeboaspraticas.iff.fiocruz.br/wp-content/uploads/2022/07/PRE-NATAL-UA4-SIFILIS-NA-GRAVIDEZ_final.pdf

Regarding adverse reactions to penicillins, some people have hypersensitivity reactions, which can be divided into immediate reactions (up to 20 minutes after administration. These include: urticaria, diffuse itching, skin flushing, laryngeal edema, cardiac arrhythmia and shock); accelerated reactions (up to 72 hours after administration. These include: urticaria or angioedema, laryngeal edema, hypotension and death); late reactions (after 72 hours of application. They include: benign skin eruptions, morbilliform, fever, serum-like disease, immune hemolytic anemia, thrombocytopenia, acute interstitial nephritis, pulmonary infiltrate with eosinophilia and hypersensitivity vasculitis. The pathophysiological mechanism is not known); (4).

Additionally, patients with syphilis may experience the Jarisch-Herxheimer reaction (fever, chills, headache, and reactions at the site of the lesion). When penicillin is accidentally injected into the sciatic nerve, severe pain and

dysfunction occur in the area of distribution of this nerve, which can persist for weeks. (4) However, other than that, no data on syncope was found.

Syncope is a transient and self-limited loss of consciousness resulting from acute global impairment of cerebral blood flow. The onset is rapid, short-lived, and recovery is spontaneous and complete. Typical presyncope symptoms include dizziness, vertigo, weakness, fatigue, and visual and auditory disturbances. (5)

Women during pregnancy experience a number of hemodynamic changes, including reduced cardiovascular resistance, increased blood volume and cardiac output, and eccentric hypertrophy of the left ventricle, changes that may predispose the woman to episodes of syncope. (5)

According to the Journal of the American Heart Association (JAHA), a retrospective study carried out on pregnant women, between 2005 and 2014, in the province of Alberta in Canada, among 481,930 pregnancies, 4,667 had at least one episode of syncope. This study also showed that, compared to women who did not have syncope episodes, women who experienced syncope were younger (age <25 years) and primiparous. (5)

When witnessing a case of syncope, it is important to emphasize that it is necessary to always remain close to the pregnant woman, while she is unconscious and after she has regained consciousness, to provide support or help, if necessary. The first act must be to analyze whether the patient is breathing and has a pulse. If not, it will be necessary to call an ambulance and initiate a cardiorespiratory arrest (CRA) protocol. However, if the pregnant woman has a pulse and is breathing, care must be: 1- move the victim away from places that pose a danger, such as stairs or windows; 2- lay the patient on the floor face up, placing her legs higher than her head (it is important to highlight that this must not

be done in pregnant women from the third trimester of pregnancy, considering that the baby's weight can compress important blood vessels in the abdomen); 3- loosen your clothes and open the buttons, making breathing easier; 4- observe whether there is the presence of injuries or bleeding and, if positive, press the wound site to avoid large amounts of blood loss; 5- lateralize the head to facilitate breathing. If the pregnant woman takes more than a minute to wake up, SAMU must be activated and her breathing must be checked again, and, if she is absent, the PCR protocol must also be started. When the patient regains consciousness, being able to hear and speak, she must be instructed to remain sitting for at least ten minutes, before walking again, as there is a chance of syncope occurring again. (6)

Furthermore, the most important thing to do in these cases is to protect the pregnant woman's belly, so that it does not fall on the baby, thus preventing any trauma from being caused. If it is noticed that the patient or baby has suffered any trauma, it is extremely important to call an ambulance and take the patient to the emergency room so that the best care can be provided. (7)

CONCLUSION

In short, the studies listed for the development of this case report showed no relationship between the medication benzetacil and the episode of syncope. Therefore, in the report evidenced, it is possibly more related to the pregnant woman's previous hypotension, together with inadequate nutrition and walking in the sun to the UBS.

Furthermore, the preparation of the medication, the method of application and the first aid provided were correct, taking into consideration, the health of both the mother and the fetus.

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