



Massive Condyloma Acuminata on a 20-week Pregnant Primigravida

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Abstract

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BACKGROUND: Condyloma acuminata, a sexual infectious disease caused by human papilloma virus (HPV) or Chlamydia trachomatis, is more commonly in pregnant women and severe than in non-pregnant women. Pregnant women are susceptible to infection due to the immunologic suppression and continue according to gestational age. We present a case report about a primigravida diagnosed with massive condyloma acuminata.

CASE REPORT: The patient was a 27-year-old primigravida, 20 weeks gestation age with clinical manifestation of massive condyloma acuminata. Inspeculo, cauliflower-like masses in vaginal into cervix, intact, livide, and grandson cervix, a lot of vaginal discharge/flour albus from ostium uteri externum were found. Vaginal swab and serology test for Chlamydia was conducted. The patient was diagnosed as a primigravida who underwent a 20-week pregnancy with massive condyloma acuminata. The patient was treated by cauterization and clinical manifestations after cauterization was observed until delivered. Termination at 37 weeks gestation age, aterm, estimated fetal weight > 2500 g by cesarean section. There was improvement of healing process without any new Condyloma acuminata masses after cauterization.

CONCLUSION: The cauterization conducted on a 27-year-old primigravida, 20 weeks gestation age with a massive condyloma acuminata showed a clinical recovery result, and finally, the pregnancy was terminate by cesarean section at the 37 weeks and > 2500 g fetus weight safely.

Introduction

Women have a high risk of diseases related to pregnancy and childbirth, as well as chronic diseases and infections. During pregnancy, women experience various changes, which are naturally needed for the survival of the fetus in the womb. However, these changes apparently can affect susceptibility to infections during pregnancy. The changes include immunological changes, during pregnancy, maternal immunocompetent suppression potentially happens that can affect the occurrence of infectious diseases. Immune system suppression will increase due to gestational age and affect genital infection process. Candidosis in pregnant women is more common and can be more severe compared to non-pregnant women. It similarly happens with condyloma acuminata and genital herpes [1]. Condyloma acuminata is a sexually transmitted infectious disease caused by the human papilloma virus (HPV) or *Chlamydia trachomatis*.

Human papilloma virus (HPV) is primarily transmitted through sexual contact, which can be identified in the age of between 18 and 28 years old. Clinical manifestations of condyloma acuminata are usually associated with infection of HPV subtype 6 and 11, in the form of massive growth of verrucosa on the

genital [2], however, some cases are asymptomatic [3]. The high incidence of HPV infection in pregnant women is associated with the increase in the immune response during pregnancy [4], also caused by pregnancy hormones [5].

Genital tractus tends to change greatly during pregnancy. The vaginal wall becomes hypertrophic and full of blood. Hypertrophic cervix and microorganisms exposure at columnar epithelium in the ectocervix can induce infection. The expansion of cervical ectopy during pregnancy results in cervical infection or latent reactivation. During pregnancy, there are cervicovaginal microbial flora changes. Microbial vaginal flora is heterogeneous ecosystem for various anaerobic bacteria and facultative anaerobic bacteria. Several studies found that during pregnancy, the number of bacterial species in the vagina, especially anaerobic species, decreases and the prevalence and quantity of lactobacilli increase, while other facultative bacteria remain. It is suspected that the mechanism causing these changes is vaginal pH, glycogen content, and lower genital vascularization [1].

The recommended measures for the treatment of condyloma in pregnancy include bi- and tri-chloroacetic acid (BCA/TCA), cryotherapy, electrocautery, surgical excision, and laser treatment [5]. Cauterization as treatment for massive cases of condyloma acuminata

in pregnancy applied in this case. This case report describes a case of massive condyloma acuminata in pregnancy which is treated by cauterization and obtained satisfying healing results.

Massive condyloma acuminata, also called Buschke-Lowenstein tumor, appears to be in a large cauliflower-like form and covers large surfaces growing slowly in anogenital areas [6]. Giant condyloma in the anogenital area was first introduced by Abraham Buschke and Ludwig Lowenstein in 1896 [4]. However, another study stated that the disease was introduced by Abraham Buschke and Lowenstein Ludwig in 1925 [2], [7]. Giant condyloma acuminata is rarely found in pregnant women [8]. Giant condyloma acuminata has a higher risk of becoming malignant than classical condyloma acuminata [9].

Case Description

A 27-year-old primigravida with 20 weeks of pregnancy came to the antenatal care (ANC) clinic, with the complaints of vaginal discharge that had been felt long before the pregnancy. Moreover, she felt a lump around the vagina along with itching. The complaints have been felt for 1 month, and the lump increasingly grew bigger along with the growing fetal movements. The general state of the patient's health was good at compos mentis with the vital signs such as blood pressure was 130/80 mmHg, the pulse was 80x/min, the respiratory was 20 times/min, and the temperature was afebrile.

Diagnostic methods: In the examination, lung, liver, and spleen were under normal circumstances. Meanwhile, the abdominal examination showed that the height of the uterine fundus was as high as the center, and the fetal heart rate was normal. In the gynecological examination, a cauliflower-like mass was found in the vagina stranding from the perineum to the anus with a size of 4 × 4 × 3 cm. The vagina was also filled with similar masses into the vagina hole. In a speculum examination, a cauliflower-like mass was found in the vagina up to the cervix. The cervix was intact and in a pouting look, ostium uteri externum was covered, a lot of fluor albus/vaginal discharge was produced, and a livid appeared.

Ultrasonography examination showed a single fetus with a regular heart rate, good placenta, and sufficient amniotic fluid, indicating that the fetus' condition was good. The result of the laboratory test was such as hemoglobin 10.7 g/dL, leukocyte 8,590/uL, platelet 302,000/uL, erythrocyte 3.59/uL, 11 min of clotting time, and 3.5 min of bleeding time.

The patient was diagnosed as a primigravida who underwent a 20-week pregnancy with massive condyloma acuminata. The cauterization was conducted

by examining the condyloma delivered to the anatomical pathology. Furthermore, the serological examination was later conducted using anti-chlamydia trachomatis IgG, IgM, and HPV-DNA (Figure 1).

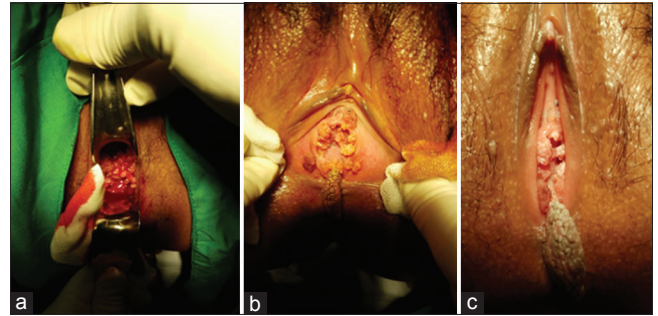


Figure 1: The mass of condyloma acuminata before the intervention. (a) The mass of condyloma in the vagina into the cervix. Inspeculo: The cauliflower-like mass was found in the vagina into the cervix. The cervix was intact and in a pouting look, ostium uteri externum was covered, a lot of fluor albus/vaginal discharge was produced, and a livid appeared. (b) The condyloma mass at the vaginal entrance. (c) The condyloma mass visible from the outside

The intervention taken for this case was a careful cauterization on the condyloma masses. Around the area of the cervix, there were considerable bleeding condyloma masses. This condition caused the non-optimal intervention toward the masses. The growth of remaining masses was evaluated later at postnatal condition. Apparently, the lesion was perceived to undergo spontaneous regression after the labor process [1]. The excised condyloma masses were later delivered to the pathology anatomy to conduct histopathology examination. On the cauterization intervention, the patient was perceived to be in good condition and compos mentis, have a normal vital sign, and the fetal heart rate was normal and regular. Oral therapy was carried out by administering the acyclovir orally and acyclovir ointment on the cautery lesions until they appeared to dry up and heal.

Follow-up and outcomes: In the evaluation on the 1st day after the cauterization, the patient was in good condition and compos mentis, has a normal vital sign, and the fetal heart rate was normal and regular. The urine bag and catheter dower were removed and the patient was asked to mobilize by starting moving the body to the right and left, and practicing walking, standing, and sitting position. The observation of uterine contraction and the fetal heart rate was evaluated every 4 h within 24 h. If it was found that uterine contraction strengthened and the fetal heart rate was problematic, the nurse was asked to report it to the Obsgyn. doctor. However, in this case, uterine contraction was not found, and the fetal heart rate was normal. Therefore, it was perceived that the fetus was in good condition, and the pregnancy was not interfered by the cauterization intervention. Furthermore, a post-cauterization treatment showed good results with minimal scars' bleeding.

On the 2nd day of the treatment after the cauterization intervention, the patient's general condition was good, compos mentis, had normal

urinating activity, a good appetite, and the patient was able to sit and walk. The vital sign examination was normal as well as the fetal heart rate. However, the observation on uterine contraction and the fetal heart rate remained to be conducted. The post-cauterization treatment showed good results with no scars bleeding. On the 2nd day, the patient was allowed to go back home with a good condition, no complaints, normal vital signs, as well as normal fetal heart rate. The patient was required to come back for control later in 3 days while waiting for the result of the anatomic pathology test. An anti-*Chlamydia* IgG and IgM and vaginal swab examination against Gram, fungi, and gonorrhea were conducted. Furthermore, the growth of the fetus was monitored by conducting ANC control, depending on the pregnancy term at the Obsgyn. clinic.

Results

Post-cauterization therapy showed a good healing process (Figure 2). There were no signs of infection such as redness, swelling, and pain. Moreover, the post-cauterization scars appeared to dry and showed no bleeding signs. There was only a small amount of condyloma masses left due to the heavy bleeding. The remaining masses were observed until the puerperium was finished. The gynecological examination was reconducted to assess whether there was a new mass growth or the healing process due to the end of pregnancy.



Figure 2: Masses of condyloma acuminata after the cauterization intervention

The preventive value of pregnancy termination based on cesarean section was still unidentifiable [1]. The intervention of pregnancy termination based on cesarean section would be conducted if the vaginal childbirth caused excessive bleeding. In this case of the study, the condyloma lesion could not be completely removed by the cauterization intervention. Thus, the growth of condyloma masses was still examined. This condition potentially caused the risk of excessive

bleeding due to the remaining masses around the cervix. Therefore, the pregnancy termination, in this case, was decided to be cesarean section.

Discussion

Condyloma acuminata is a mass with epidermal manifestations associated with the infection of HPV. Approximately 90% of condyloma cases are associated with HPV type 6 and 11 [10], [11], [12], [13], where both types of HPV cause most genital warts [14]. In general, this case is found around 0.1% in the population and is such a sexually transmitted disease (STD) commonly found in the area of anorectal [6]. The epidemiology of condyloma in pregnancy shows that the disease is the most common sexually transmitted disease found during pregnancy [15].

This case report was raised due to the massive growth of condyloma acuminata found in a pregnant woman. The growth of the disease occurred rapidly, along with the growth of condyloma masses around the vagina into the cervix. The masses of condyloma acuminata also grew massively outside around perineum. Therefore, careful intervention and examination on the patient were needed along with the growth of the fetus and the possibility of the type of childbirth carried out.

The rapid growth of condyloma acuminata in a 20-week pregnant woman is also caused by the maternal immunocompetent suppression during pregnancy. The suppression of the immune system increases as the gestational age rises and that affects the genital infectious disease [1]. The condyloma acuminata grows rapidly during pregnancy and will undergo regression during the puerperium. The lesions of HPV infection potentially grow in a local destructive way into a Buschke-Lowenstein tumor [16]. Furthermore, although the condyloma acuminata as a genital wart is rarely transmitted into the neonates, the incidence of laryngeal and respiratory papillomatosis as well as perianal warts in infants has ever been reported [1].

Although several studies stated that 20% of the fetal transmission of the disease potentially occurs, the risk still remains unidentifiable. The type of vaginal childbirth and cesarean section do not show infection of the disease in children [16]. In addition, maternal complications such as vaginal bleeding, vaginal obstruction, and urethral obstruction increase the rate of cesarean section incidents in patients with condyloma acuminata during pregnancy [17]. In this case, termination of pregnancy was carried out by cesarean section. This is due to the presence of massive condyloma acuminata and not all condyloma masses that can be cleaned by cauterization due to heavy bleeding. The choice of cesarean section in this case was right, considering that at the time of cauterization,

there was still some condyloma mass remaining, due to bleeding. Section cesarean is recommended if there is a risk of bleeding with vaginal delivery [3].

Termination was carried out at term gestational age (>37 weeks) because the ultrasound examination showed that the fetus was healthy and waiting to reach a fetal weight > 2500 grams. In line with research Yang *et al.*, where most cases of condyloma in pregnancy were terminated by cesarean section 58.7% (27/46), born at term 37–41 weeks 84.8% (39/46), weighing between 2500 and 4000 g 89.1% (41/46) [5].

Condyloma lesions tend to be vulnerable in their proliferation process during pregnancy. To avoid disruption during the labor process, cauterization therapy can be a consideration. The therapy is such as cryotherapy and electrocauterization. The genital area tends to be vascular during pregnancy so that a considerable amount of bleeding is likely to occur during electrocauterization intervention [1]. Furthermore, 66% of the rate of the healing success of condyloma acuminata using electrocoagulation was reported by Vuori *et al.* [7].

Electrocautery is an ablation procedure, its benefits are only short term, with a success rate of 70–80%, but have a recurrence rate of up to 25% [18]. Treatment of condyloma using laser therapy in early pregnancy will lead to a higher recurrence rate [19]. However, there is something encouraging about condyloma in pregnancy will regress spontaneously after delivery [1]. This was also found in this case, where the condyloma mass that was still remaining during cauterization due to bleeding regressed spontaneously after delivery. One month after delivery, the inspeculo examination did not reveal any condyloma masses in the vaginal canal and cervix.

Cauterization performed in this case gave good healing to the surgical scars. The cauterization intervention on condyloma masses was followed by the administration of acyclovir tablet preparation and acyclovir ointment into the cautery lesions until they appeared to dry up and heal. No fetal developmental disorders were found despite anesthesia and surgery during pregnancy. Management of condyloma in pregnancy also gives good results with cryotherapy combined with proanthocyanidins [5]. Management of condyloma in pregnancy has been shown to be 80–90% successful with TCA combined with electrocautery and excision. Electrocautery and excision were performed at the time of cesarean section. The combination of these three actions does not give recurrence [20].

The recurrence rate of condyloma acuminata appears to be significant with age, which is higher in reproductive age [21]. This case also occurred in the reproductive age of a primigravida 27 years old. The weakness of this case evaluation is the loss of follow-up after the puerperium.

Cryotherapy and laser therapy are the first and second choice therapy in the treatment of condyloma in

pregnancy. Imiquimod is used for extensive condyloma, which has difficulty with cryotherapy and laser therapy [22]. Topical imiquimod 3.75% cream provides optimal results in the treatment of giant condyloma in a person aged 66 years, who is at risk of other procedures [23]. The use of imiquimod 5% cream also succeeded in curing condyloma in a 2-year-old baby, with a dose of 3 times per week, for 12 weeks [24]. Besides imiquimod, TCA is also the treatment of choice for condyloma in pediatrics [25]. In the review, it was stated that the management of condyloma in pregnancy is still unclear, further research is still needed [22].

In this case, after cauterization, the patient received acyclovir orally and acyclovir ointment on the cautery lesions until they appeared to dry up and heal. The recommended oral therapy for genital herpes is acyclovir 400 mg orally 3 times a day for 7–10 days, or acyclovir 200 mg orally 5 times a day for 7–10 days [3].

Moreover, the patient was planned to be examined for anti-chlamydia IgG and IgM as well as a vaginal swab examination for Gram, fungi, and gonorrhea. This is in accordance with the recommended screening, namely, screening for chlamydia trachomatis, gonorrhea, HIV, and other sexually transmitted diseases [3]. It is recommended that HIV screening for pregnant women be carried out on their first arrival during antenatal care. A second HIV screening was performed before 36 weeks of gestation. This is useful not only for the mother but also the fetus in her womb, against the risk of perinatal transmission [3].

The observation of uterine contraction and fetal heart rate continued to be conducted. In addition, the fetus' growth continued to be monitored by the recommendation of antenatal care (ANC) control based on the pregnancy term. All in all, by the appropriate diagnosis and the good intervention on the sexually transmitted infections in a pregnancy condition, the rate of maternal and fetal morbidity and mortality can be reduced.

Conclusion

The cauterization conducted on a 27-year-old primigravida, 20 weeks gestation age with a massive condyloma acuminata showed a clinical recovery result, and finally, the pregnancy was terminate by cesarean section at the 37 weeks and > 2500 g fetus weight safely.

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References

1. Daili SF. Infeksi menular seksual. In: Ilmu Kebidanan Sarwono Prawirohardjo. 4th ed. Jakarta: PT Bina Pustaka Sarwono Prawirohardjo; 2016.
2. Ugurlucan FG, Yasa F, Demir O, Dural O, Yavuz E, Akhan SE. Giant vulvar condylomata: Two cases and a review of the literature. *Case Rep Obstet Gynecol*. 2019;2019:1-5. <https://doi.org/10.1155/2019/1470105>
3. Frieden TR. Sexually transmitted diseases treatment guidelines. *MMWR*. 2015;64(3):1-137.
4. Martinez-Cumplido R, Gonzalez-Bosquet E. Giant cervical condyloma during pregnancy: A case report. *Int J Womens Health Reprod Sci*. 2016;4(2):81-3. <https://doi.org/10.15296/ijwhr.2016.19>
5. Yang LJ, Zhu DN, Dang YL, Zhao X. Treatment of condyloma acuminata in pregnant women with cryotherapy combined with proanthocyanidins: Outcome and safety. *Exp Ther Med*. 2016;11(6):2391-4. <https://doi.org/10.3892/etm.2016.3207> PMID:27284325
6. Gürbulak EK, Akgün IE, Ömeroğlu S, Öz A. Giant perianal condyloma acuminatum: Reconstruction with bilateral gluteal fasciocutaneous V-Y advancement flap. *Ulus Cerrahi Derg*. 2015;31(3):170-3. <https://doi.org/10.5152/UCD.2015.2838> PMID:26504423
7. Powell JL. Condyloma Acuminatum: Recent Advances in Development, Carcinogenesis, and Treatment. Treasure Island, FL: StatPearls; 2021. p. 1061-79.
8. Cui T, Huang J, Lv B, Yao Q. Giant condyloma acuminatum in pregnancy: A case report. *Dermatol Ther*. 2019;32(4):e12972. <https://doi.org/10.1111/dth.12972> PMID:31141268
9. Nieves-Condoy JF, Acuña-Pinzón CL, Chavarriá-Chavira JL, Hinojosa-Ugarte D, Zúñiga-Vázquez LA. Giant condyloma acuminata (buschke-lowenstein tumor): Review of an unusual disease and difficult to manage. *Infect Dis Obstet Gynecol*. 2021;2021:1-5. <https://doi.org/10.1155/2021/9919446>
10. Ghadishah D. Condyloma acuminata. *Medscape Ref Drugs Dis Proced*. 2016;2016:1-4. https://doi.org/10.1007/978-1-4020-5614-7_504
11. Brown DR, Schroeder JM, Bryan JT, Stoler MH, Fife KH. Detection of multiple human papillomavirus types in condylomata acuminata lesions from otherwise healthy and immunosuppressed patients. *J Clin Microbiol*. 1999;37(10):3316-22. <https://doi.org/10.1128/jcm.37.10.3316-3322.1999> PMID:10488198
12. Rydzewska-Rosółowska A, Kakareko K, Kowalik M, Zaręba K, Zbroch E, Hryszko T. An unexpected giant problem-Giant condyloma (Buschke-Lowenstein tumor). *Int J Infect Dis*. 2021;103:280-1. <https://doi.org/10.1016/j.ijid.2020.11.200> PMID:33276109
13. Steben M, Garland SM. Genital warts. *Best Pract Res Clin Obstet Gynaecol*. 2014;28(7):1063-73. <https://doi.org/10.1016/j.bpobgyn.2014.07.002> PMID:25155525
14. Grennan D. Genital warts. *JAMA*. 2019;321(5):520. <https://doi.org/10.1001/jama.2018.20181> PMID:30721297
15. Assad PV, Passos MR, Filho GL, Bravo RS. Condyloma in pregnancy. *J Bras Doenças Sex Transm*. 2001;13(5):8-16.
16. Michiels I, Tjalma WA. The rapid development of a giant condyloma acuminatum (Buschke-Löwenstein tumor) during pregnancy. *Acta Obstet Gynecol Scand*. 2007;86(6):762-3. <https://doi.org/10.1080/00016340600617999> PMID:17520414
17. Yavuzcan A, Çağlar M, Turan H, Tekin A, Topuz S, Yavuzcan G, et al. The treatment of giant periurethral condyloma in pregnancy using an ultrasonic thermal scalpel: A case report and new single session treatment option. *Case Rep Obstet Gynecol*. 2015;2015:792412. <https://doi.org/10.1155/2015/792412> PMID:25648983
18. Akhavizadegan H. Electrocautery resection, shaving with a scalpel, and podophyllin: A combination therapy for giant condyloma acuminatum. *World J Mens Health*. 2015;33(1):39-41. <https://doi.org/10.5534/wjmh.2015.33.1.39> PMID:25927062
19. Widschwendter A, Böttcher B, Riedl D, Coban S, Mutz-Dehbalaie I, Gothe RM, et al. Recurrence of genitals warts in pre-HPV vaccine era after laser treatment. *Arch Gynecol Obstet*. 2019;300(3):661-8. <https://doi.org/10.1007/s00404-019-05242-5> PMID:31286210
20. Ismihari PC, Oktavianti RN. Giant condyloma acuminata in pregnancy, use of trichloroacetic acid combined with electrocauterization and excision procedure: A case report. *Herb Med J*. 2021;4(3):82-6. <https://doi.org/10.30595/hmj.v4i3.10252>
21. Jeo WS, Sugiharto B, Kekalih A. Perianal condyloma acuminata: Factors that contribute to the recurrence. *New Ropanasuri J Surg*. 2018;3(2):31-3. <https://doi.org/10.7454/nrjs.v3i2.54>
22. Sugai S, Nishijima K, Enomoto T. Management of condyloma acuminata in pregnancy: A review. *Sex Transm Dis*. 2021;48(6):403-9. <https://doi.org/10.1097/OLQ.0000000000001322> PMID:33093288
23. Hum M, Chow E, Schuurmans N, Dytoc M. Case of giant vulvar condyloma acuminata successfully treated with imiquimod 3.75% cream: A case report. *SAGE Open Med Case Rep*. 2018;6:143. <https://doi.org/10.1177/2050313x18802143> PMID:30345054
24. Dinleyici M, Saracoglu N, Eren M, Kiliç O, Ciftci E, Dinleyici EC, et al. Giant condyloma acuminata due to human papillomavirus type 16 in an infant successfully treated with topical imiquimod therapy. *Dermatol Rep*. 2015;7(6134):31-3. <https://doi.org/10.4081/dr.2015.6134> PMID:26734121
25. Varma S, Lathrop E, Haddad LB. Pediatric condyloma acuminata. *J Pediatr Adolesc Gynecol*. 2013;26(6):e121-2. <https://doi.org/10.1016/j.jpag.2013.03.017> PMID:24001431