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Genital Molluscum Contagiosum Involved In An Epidermoid Cyst: A Case Report

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Abstract. The occurrence of molluscum contagiosum in an epidermoid cyst is a rare condition. Although molluscum contagiosum is usually benign, self-limited, the duration of spontaneous resolution varies from months to years. We report a 24-year-old male patient with chief complaint of a small non pruritic and non tender lump on the pubic and genital area. The lesion increased in size and number since 3 months prior to consult. Initially, 7 months prior to consult, a pimple like lesion appeared on the pubic area. Picking at the lump resulted in the discharge of white filling rice-like substance. History of shaving pubic hair with a razor was noted. The patient is unmarried, heterosexual with a history of promiscuity. History of sexual contact through genitogenital and orogenital using condoms during sexual intercourse. Dermatological status found nodules with in-surface delle lesions with various sizes of 0.3-0.7 cm x 0.3-0.7 cm x 0.1-0.3 cm. Skin punch biopsy on the non umbilicated nodule revealed an epidermoid cyst with koilocytes, which is pathognomonic for viral infection. Direct contact during sexual intercourse is the most common mode of transmission in adults.

Keyword: case report, epidermoid cyst, genital, molluscum contagiosum

Abstrak. Terjadinya moluskum kontagiosum pada kista epidermoid adalah kasus yang jarang terjadi. Meskipun moluskum kontagiosum biasanya merupakan lesi jinak yang sembuh sendiri, tetapi durasi resolusi spontan bervariasi dari bulan ke tahun. Kami melaporkan seorang pasien laki-laki berusia 24 tahun dengan keluhan utama benjolan kecil yang tidak terasa gatal atau nyeri di daerah kemaluan atau di sekitar alat kelamin sudah bertambah sejak sekitar 3 bulan yang lalu. Awalnya sekitar 7 bulan yang lalu muncul jerawat yang tidak gatal atau nyeri di daerah kemaluan yang awalnya hanya berjumlah 1, kemudian pasien pecahkan bintilnya dan keluarlah isian berwarna putih seperti nasi. Ada riwayat mencukur rambut kemaluan dengan pisau cukur. Pasien belum menikah, heteroseksual dengan riwayat promiskuitas. Riwayat kontak seksual melalui genitogenital dan orogenital menggunakan kondom saat berhubungan seksual. Status dermatolgis ditemukan nodul dengan lesi delle in surface dengan berbagai ukuran 0,3-0,7 cm x 0,3-0,7 cm x 0,1-0,3 cm. Pemeriksaan biopsi kulit pada nodul tanpa delle menunjukkan adanya kista epidermoid dan moluskum kontagiosum dengan koilosit yang khas untuk infeksi virus. Kontak langsung selama hubungan seksual adalah cara penularan yang paling umum pada orang dewasa.

Kata kunci: kista epidermoid, laporan kasus, moluskum kontagiosum

Introduction

Molluscum contagiosum (MC) is a cutaneous infection caused by MC virus (MCV).[1] There are two types of MCV (MCV1 and MCV2) with an incubation period of 2 to 7 weeks. Most lesions regress spontaneously within 9 to 12 months in immunocompetent patients.[2] Lesions commonly occur on face, neck, and abdomen but in sexually active people they can be found on inner thighs, genital, and pubic areas.[2,3]Autoinoculation can occur. MC presents as small, firm, smooth-surfaced, dome-shaped papules with a central umbilication.[1,6] The lesions of molluscum contagiosum are a benign skin eruption caused by skin infection with a large DNA virus of the Poxviridae family, Molluscipox genus. The Molluscum contagiosum virus (MCV) has two main subtypes (types 1 and 2) which account for virtually all lesions, although genotypic analysis has also identified other rarer subtypes. Type 1 is the most prevalent in lesions with the actual distribution varying between different geographical series.[8]

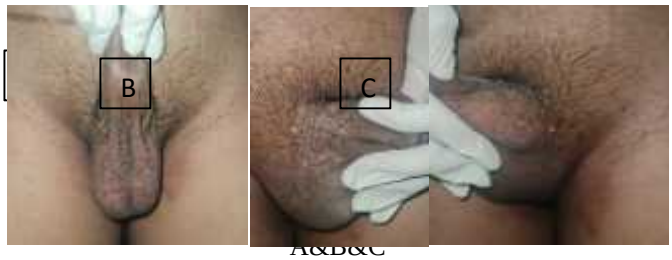
Transmission is generally caused by direct physical contact, and most of the evidence is derived from cohort studies in children, but it has also been reported in some contact sports. Increased transmission has been reported for swimming and co-bathing, and also fomite spread with the sharing of towels / sponges, with case reports of congenital transmission. In the context of adults, direct contact during sexual intercourse is the commonest mode of transmission.[8] Molluscum is a benign viral skin infection that is caused by a DNA pox virus. It commonly occurs in one of three settings: acquired through direct close physical contact or fomites, or through contact with contaminated objects e.g. towels, bedding. The incubation period can vary between 7 days and 6 months. Can affect adults, but 90% of cases presenting to GPs are in those under 15 years. Typically, the face, neck, trunk and/or limbs are affected, acquired as an STI through sexual contact, usually in young adults. Lesions typically affect the genitals, pubis, lower abdomen, upper thighs and/or buttocks and severe Molluscum infection in immunocompromised states can be significantly more aggressive and widespread, presenting with 100 or more lesions in one individual and progressing as confluent, coalescing plaques. Notably seen in late-stage HIV disease.[9]

Molluscum contagiosum (MC) is a poxvirus infection of the skin and mucous membranes caused by a virus in the subgenus molluscipoxvirus, which comprises four genetically distinct viral subtypes.[10] The disease is more commonly found among adolescents and young adults. People with immunocompromised status are frequently affected by this virus. The lesions of MC have a predilection for the head and neck region, the exural areas and the genitalia.[11] Extensive lesions can occur in immunocompromised patients, particularly those with AIDS.[12] However, the occurrence of MC in an epidermoid cyst (EC) is a rare phenomenon.[13] We are presenting such a rare case of MC affecting the lining of an EC in an immunocompetent patient that led to a clinical misdiagnosis.[14]

Case report

Twenty four year old male patient sought consult at Dr.M.Djamil Central Hospital, Dermatovenereology Clinic on July 30th, 2021 with chief complaint of non pruritic nor painfull bump on the pubic and perigenital area. The lesion increased in size and number since 3 weeks prior to consult. Initially, 7 months prior consult, a pimple-like lesion appeared in the pubic area, the patient picked at the nodule the a white filling rice like substance came out. Approximately 3 months prior to consult, the nodules increased in number around the patient's genital. There was no noted history of purulent discharge nor tenderness of the nodule. History of warts, rashes of the palms and soles or other body parts were denied. History of shaving pubic hair with razor was noted. There was no history of baldness on the scalp. History of non tender ulcer on genital area was also denied. The patient was not married. Patient had multiple sexual female partners. History of sexual contact was 3 month prior to consult. History of sexual partners who had vaginal discharge, genital lumps or nodule was unknown. History of sexual contact through the genitogenital and orogenital using condoms during sexual intercourse was present. The patient's history of having same-sex sex before marriage was denied. There was no history of sexually transmitted disease such as syphilis, gonorrhea, genital herpes and ulcer, as well as history of malignancy before. History of ulcers on the genitals, genital warts, reddish patches on both palms and soles, urethral purulent discharge were absent.

of the feet, gonorrhea denied.



A&B&C

Papules with a central umbilication of various sizes around the genitals

Figure 2. Papules without a central umbilication in pubis (red box) Figure 3. Dermoscopy on the whitist papule revealed characteristic delle surface of molluscum contagiosum

Figure 4. Ekskohliation showed the molluscum body like white rice

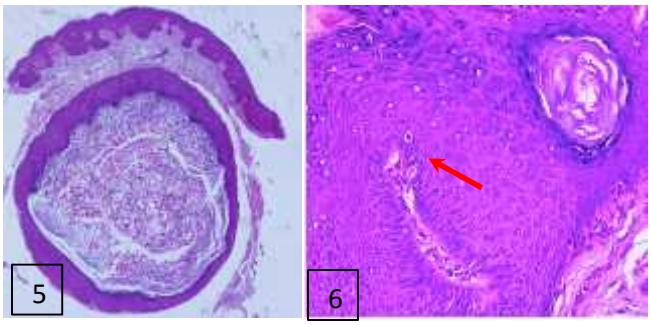


Figure 5. A picture of an epidermoid cyst with H&E, 4x. Figure 6. Coilocytes surrounded by a halo are seen as a sign of viral infections H&E,40x(red arrow)

Discussion

Based on literature molluscum contagiosum (MC) is a benign viral epidermal infection associated with high risk of transmission and with an increasing frequency in worldwide population. In literature said that the sexually transmitted molluscum contagiosum targets adolescents (from 16 years of age) and adults.[8] MC occurs worldwide and is more frequent in children but can also affect adolescents and adults. It typically affects children between 2-5 years old, being rare under the age of 1 year. There are no gender differences. the prevalence of MC is limited, a meta-analysis of cross-sectional surveys among children revealed an overall prevalence of 8.28% (95% CI 5.1–11.5) and showed a higher frequency in geographical areas with warm climates. In the United States, it is estimated that the prevalence in children is less than 5%.[21] Our study in Indonesia, from the total new patients who came to the Dermatovenereology outpatient clinic of Prof. Dr. R. D. Kandou Hospital, Manado from 2013-2015 periods, a total of 60 patients (1.66%) were diagnosed with molluscum contagiosum. This infection is likely to be found in men (31 patients; 51.7%), 5-14 years old age group (38; 63.3%), and students (29 patients; 48.3%). The location is likely to be in a combination of facial, thorax, and extremities (34 patients: 56.7%). Most of the patients were treated with curettage (56 patients; 93.3%).[22]

In our patient, predilection of the molluscum contagiosum lesions were on the genital area and the possible cause is from sexual transmission. This patient had a multiple female sexual partners by both genitogenitally and orogenitally. This is in accordance with the literature which said that the etiopathogenesis of molluscum contagiosum transmission is generally caused by direct physical contact. The most evidence is derived from cohort studies in children. However it has also been reported in some contact during sports. Increased transmission has been reported in swimming, co-bathing, and also fomite spread via the sharing of towels/sponges, with case reports of congenital transmission. In the context of adult, direct skin-to-skin contact during sexual intercourse is the most common mode of transmission.[23]

In this patient not all lesions were typical for the diagnosis of molluscum contagiosum, there were some lesions that are not like molluscum contagiosum which lack of central umbilication and are more similar to epidermoid cysts. The patient was also immunocompetent which is rare to acquired molluscum contagiosum. According to the literature, the lesions most commonly occur in immunosuppressed and immunocompromised patients. Epidermoid cyst (EC) are lesions that arise from the infundibular portion of the terminal hair follicles. They are usually situated in the dermis and protrude in the epidermis. Although EC may become infected and culture showed growth of bacteria, both aerobic and anaerobic. The prevalence of molluscum contagiosum (MC) within an EC is an extremely rare occurrence. The coexistence of MC and EC was first reported way back in the year of 1973. They were presented as subcutaneous nodule with a surface punctum through which cheesy material can be expressed. It commonly affects adult men or women. Chest, back, head and neck region are the most common sites of involvement. Molluscum contagiosum is a viral infection caused by a poxvirus, subgenus molluscipox virus (MCV), which comprises four genetically distinct viral subtypes. It is characterized by shiny, pearly white, hemispherical, umbilicated papule over skin and mucosa. MC is more common among children. It is common in the head and neck region, followed by flexural areas and the genitalia. Extensive lesions can occur in immunocompromised patients, especially in HIV,

patients receiving immunosuppressive therapy, and in atopics. However, our patient was neither atopic nor had history of use of any topical or systemic medication. After entering through the basal epidermis, the MCV starts cellular proliferation and forms lobulated epidermal growths which further compress the papillae and, thus, fibrous septae develop between the lobules. Ultimately, cells at the center of the lesion get destroyed and appear as large hyaline bodies containing eosinophilic, cytoplasmic masses of virus material. Spontaneous regression usually occurs within 1 year due to cell-mediated immune response. Antibody to the virus is present in almost 60% of patients, which suggest the role of humoral immunity in addition. Apart from these, ubiquitin-proteasome system also plays an important role in regression of the lesions. Apoptosis of the virus-infected cells occurs at the end of the regression. Rarely, MCV may infect keratinocytes of the hair follicle infundibulum or inflamed comedones and abscesses. Molluscum contagiosum within EC in an immunocompetent individual is an extremely rare finding, and till date, only a few cases have been reported in the literature. Various hypotheses have been proposed to describe the pathogenesis of occurrence of MC within EC. It can occur due to simultaneous infection of MCV at the time of EC formation or due to invasion of the virus into a preexisting cyst. In addition, it might develop due to infection by MCV of a preexisting hair follicle followed by secondary cystic transformation.[24]

Less than twenty cases of MC in EC have been reported in the literature.[15-18.] Various hypotheses have been proposed to describe the pathogenesis of these coincidence, including inoculation of MC virus at the time of development of the EC. The invasion of MC virus into a preexisting cyst or simple dilatation of pilar infundibula by cornifed cells and molluscum bodies has been pustulated.[12,16,17]

Few literatures have described MC in EC among HIV patients.[15,19] Aldabagh et al, even demonstrated associated xanthogranulomatous reaction with pale and foamy histiocytes and admixed lymphocytes. Most ECs demonstrate a small opening to the skin surface through which MC virus can communicate from the neighboring skin into the epidermoid cyst and facilitate extension of virus from an infected epidermoid cyst to the adjacent skin.[17] Though the MC is usually a self-limiting benign lesion, the duration of spontaneous resolution varies from months to years. Moreover, recurrences have been reported often in severely immunocompromised cases and even sparsely with immunocompetent status. Besides watchful waiting for spontaneous resolution, destructive therapy like curettage or cryotherapy, immunomodulators like imiquimod and antiviral therapy may be necessary in some cases of MC.[20]

The clinical symptoms in this patient are non pruritic rashes around the genitals, which is in accordance with the literature that says sexually transmitted molluscum contagiosum usually involves the anogenital area including the external genital organs, the inguinal folds, inner thighs or the suprapubic region. Less frequently involved sites are the areola and nipple, cervix, oral mucosa, palms and plantar surfaces of the foot. Incubation typically lasts 2 to 7 weeks but may be as long as 6 months. Characteristic individual lesions, termed ‘mollusca’, are dome-shaped, smooth-surfaced, pearly, firm, skin-coloured, pink, yellow or white papules, 2–5 mm in diameter with central umbilication. Mechanical evacuation of the mollusca reveals a cheesy material containing degenerated keratinocytes and viral particles.[25]

The diagnosis in this patient was based on history, physical examination and supporting examinations. This patient was tested for syphilis and HIV with negative results, which means the patient was immunocompetent. The patient was then subjected to a dermoscopy examination and found this umbilical papule in accordance with the literature which said dermoscopy of molluscum contagiosum typically reveals a cen- tral umbilication surrounded by multiple white clods or globules. Vessels are also frequently present, usually in a peripheral or radial arrangement. With polarized light, rosettes inside the white clods are very frequently seen. Dermoscopy and in vivo confocal micro- scopy may be very useful to aid diagnosis and exclude the differ- ential diagnosis of other types of skin lesion in clinically difficult cases, including cases with inflammation or perilesional inflammation and small lesions. Dermoscopy is more sensitive than visual inspection to highlight the presence of orifices, vessels and specific vascular (crown, radial, flower and punctiform) patterns.[25]
Patients are also advised to do a PCR examination to determine the type of virus there is no significant difference in the anatomical distribution of subtypes 1 and 2, however MCV subtype 2 is slightly more common in genital lesions, and also in immunosuppression and HIV infection where the skin disease can be more severe. Subclinical infection appears common, but seroconversion does not always occur even in symptomatic infections.[8]

The use of PCR to identify MCV infection (Nunez et al., 1996; Thompson, 1997) and the use of restriction mapping or hybridization to characterize the subtypes

(Darai et al., 1986; Porter et al., 1987; Thompson, 1997) has been previously reported. Although these are functional assays, they are not without their limitations. First, these studies provide limited quantitative data for determining sensitivity. The use of real-time PCR in the present assay facilitates more accurate evaluation of detection limits and range. Second, the use of restriction mapping does not account for polymorphic sites that may complicate interpretation. The use of real-time PCR coupled with Pyrosequencing eliminates these errors by providing exact nucleotide sequences within 30 min post amplification. Third, previous methods were developed using DNA extracted from curetted lesions or expressed cores. Here analysis was performed on DNA extracted from less invasive swab samples, reducing discomfort to patients during collection. It should be noted that a critical next step in the evaluation of the described methods is application of the PCR to clinically diagnosed MCV-infected and uninfected swab samples.[27]

The patient underwent a biopsy of a lesion that did not have a central umbilical core as a characteristic feature of molluscum contagiosum. The results of histopathological examination were consistent with molluscum contagiosum and the presence of an epidermoid cyst. Based on the literature the presence of epithelial lining in the cystic wall essentially ruled out the possibility of pseudocystic MC in the present case. Furthermore, EC can be differentiated histopathologically from sebaceous duct cysts and dermoid cysts by the absence of sebaceous glands in its wall.[24]

In this patient, ekskohliation was carried out on the lesion which later when it was removed it would appear a white molluscum body like rice. In immunocompetent patients, it is reasonable to not treat molluscum contagiosum and wait for spontaneous resolution (GRADE 2, A); however, many patients with sexually transmitted lesions do in fact request treatment. Indications for active therapy include patient preference, extensive involvement, disease persistence, cosmetic reasons, fear of disease spread and scarring, and symptoms/complications, e.g. pruritus, inflammation and secondary infection. Established physical treatments for genital molluscum include cautery, curettage and liquid nitrogen cryotherapy. Cautery is easy and quick to perform and gives immediate results (GRADE 1, D). The resultant small burns typically heal within a few days, do not bleed and leave minimal scarring, provided only the raised part of the lesion is cauterized using light cautery. Pain is a relative limiting factor which may be attenuated by prior application of anaesthetic cream (e.g. EMLA cream 5%—AstraZeneca, Sweden). Curettage of molluscum lesions provides an alternative to cautery (GRADE 1, C). Curettage may eliminate lesions more definitively than cau- tery but is more traumatic and painful, and thus less suitable for genital skin (GRADE 1, C). Simply squeezing the molluscum lesions with forceps or piercing them with a small sharp article such as a clean cocktail stick may also be effective; however, there are no formal studies.[25]

The prognosis in this patient was quo ad vitam bonam, quo ad santionam dubia ad bonam because the cause of molluscum contagiosum is sexual transmission. This patient had not been married but has had sexual intercourse and this will cause the molluscum recurrence to be high. Prognosis quo ad functionam bonam, quo ad cosmeticsum bonam. After the treatment, the control patient returned 1x because it was in accordance with the literature follow-up visits are not usually required.

Patients should be informed about the treatment of possible adverse reactions, and a review visit can be scheduled if needed.[25]

Conclusion

- We reported a rare case of genital molluscum contagiosum involved in an epidermod cyts in an imunocompetent 24 year old man patient.
- Treatment response to ekhkoliation showed favorable outcome.

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