Clinical Education Initiative
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# CHANCROID: CLINICAL UPDATE

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2/8/2017

**Chancroid: Clinical Update**
**[video transcript]**

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I have no disclosures.

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The learning objectives we're just gonna talk about the causative organism and the modes of transmission, and then describe the clinical course. And also the clinical variations, because always there are clinical variations for any of these STD manifestations. Then we're going to talk about the diagnostic criteria. So sometimes you're making the diagnosis totally on clinical criteria, and occasionally on laboratory-based findings, and we'll talk about that. And lastly, talk about the recommendations for treatment and for partner management.

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So, there's been debate oftentimes around the use of the term STD versus STI, and I just wanna point out, that it isn't one or the other, it's both. There are STI's and there are STD's. And the STI's are the infectious organisms, and so the sexually transmitted infection is referred to as an STI. In the case of chancroid, the infection is due to a bacteria, hemophilus ducreyii is the name of the organism, it's a gram negative rod, and the disease syndrome, the STD, the disease that results, is chancroid. So the STI is hemophilus ducreyii, and the STD is chancroid. It is different than syphilis and herpes in the sense that the incubation period is very short, so one to 10 days is a very short incubation time, between when a person would become inoculated with the organism, and when the first clinical manifestations would appear.

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So transmission is from direct contact with the lesion. This is usually penile-vaginal intercourse, but I also wanted to mention that oral sex is a very common way that chancroid was transmitted, as is the case for other STD's as we just discussed, having oral sex, unprotected oral sex, was a common mode of transmission, and many times transmission occurred during the late 80's and early 90's, through sex trade. Oral sex contact. Anal intercourse obviously can also result in chancroid transmission, and on the right you can see, they look gram positive but they really are gram negative rods, and so within that slide we can see what looks like a school of fish type of formation, which would be the gram negative rods of hemophilus ducreyii.

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So, the typical clinical appearance is important to note because oftentimes you're making the diagnosis based on this clinical appearance. And so the history typically is, that the patient will say it started as a bump, a painful bump, a sore, or a pimple, and then ulcerates. And so you end up with this painful ulcer, you can see on the right. It does have a necrotic base a lot of the time, it could be like a yellow-white base. The discharge is purulent. Although this patient, the lesion was swabbed because of sampling so you can't see so much of a purulent exudate here. But it has what you would call a punched-biopsy

appearance, as though you took a punch-biopsy from the skin, this is appearing on the scrotum, at the base of the penis. And this was another common occurrence, because the condom, if the male's using a condom for penile-vaginal intercourse or anal intercourse, often does not cover the whole genital area, so if someone had a chancroid lesion on their rectum or on the vulva, you could still have transmission, but it would be at the base of the penis rather than the part where the condom is covering. Of note, the edges of the ulcer are what they call excavated, or undermined. So if you were taking a sample with a swab, you actually could introduce the swab under the edge of the ulcer, there's a space between where you think the ulcer ends and where the skin begins, it's actually excavated, there's a space under there. You can appreciate that if you use a swab gently to explore that area.

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So, you see them in different phases. So this is the chancroid ulcer that appeared at two days, so again, this started as a pustule, and then it pops so to speak, from the patient's perspective, and then you see this ulcer developing. And here you do see that necrotic base, sort of a yellow necrotic base and yellowish exudate. These are very painful ulcers, and so would be highly distinguishable in this way from syphilis, which is not that painful, unless you're swabbing. But herpes is also equally painful.

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Now, you can have lymphadenopathy, and if it is present, it's very helpful. The lymphadenopathy of chancroid, unlike syphilis or herpes, where the lymphadenopathy is firm, with chancroid the inguinal lymphadenopathy is very soft and fluctuant, the nodes become filled with purulent fluid, and this is referred to as a bubo. So if it's present, if you see the bubo in the inguinal area, it's pathognomic for chancroid, so it's definitely chancroid. If you see a genital ulcer with a bubo, which would be again soft and fluctuant to palpation, however only half the cases have a bubo at all. So you can't rely on that as far as making the diagnosis, but if it's present, you're much more, reassured about the diagnosis of chancroid. Sometimes these buboes become very large and actually need aspiration, or they can spontaneously ulcerate and drain. So for example in this patient, we did aspirate this bubo and basically it resulted in 15 milliliters of purulent fluid being drawn from the area. So if the bubo's that big, you really should aspirate besides giving the antibiotic treatment.

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So, here's showing both, you can see again, typical ulcer of chancroid, this punched-out, excavated appearance, and then the inguinal area right to the left, inguinal area, where you could see that soft fluctuant bubo.

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And of course there are clinical variations, so one of them is where there are multiple ulcers. And this happens especially under the foreskin, so this is a patient that was uncircumcised, and the foreskin is drawn back, and you can see that there's multiple ulcers. This is occurring because of auto-inoculation, so whenever that discharge is touching, additional ulcers tend to form on the mucus membrane. And so you see this on uncircumcised man, under the foreskin, very common in women on the vulva, this idea of multiple chancroid ulcers.

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Another variation, which is not as common, but does occur, is something called giant chancroid. So in this case, the ulcer does not become deep, it's a very very shallow ulcer, just basically descavation of the epidermal layer, on the shaft of the penis in this case. But it extends very rapidly at the edges, so it can become very large, and very wide, and cover large portions of the penile shaft. In this case, it was just beginning, this giant chancroid. We saw one patient where almost two thirds of his penile shaft was descavated with one very large giant chancroid manifestation. So, again, very painful, and very characteristic of this variation called giant chancroid.

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Shallow and larger. So in terms of the clinical appearance then, you compare that with the typical clinical appearance of syphilis, so for example, syphilis, here you see on the right, the main difference is the ulcer is indurated, so you can see here, if you can appreciate it, the edge of the ulcer looks rolled and would be firm to palpate, sort of like a rubber tube type of feeling. And this induration is not found with chancroid, is not found with herpes, so this is very classic of a syphilid lesion. But another difference is that these are not painful when they begin and they're not really painful when the person is just ambulatory. It is somewhat painful if you're introducing a swab to take samples from that kind of ulcer, but generally it's not painful. And so if you say to the patient, how did this start? If it's chancroid they'll say, I had a bump or a I had a pimple, and it hurt and I popped it, and now I have a sore. With herpes, it's a tingling, an itching, a soreness, a tenderness, and all of a sudden blisters and sores. With syphilis, it's often they see it, without having felt it. So they'll say, "I just looked down and there was a red area, and then there was a sore." So it's just a difference in terms of my clinical experience with dealing with genital ulcer disease, that the history of "How did this start?" can be very helpful when you start with the differential. So, this again has a clean base, versus a purulent or necrotic base, the exudate is again more clear, and it's relatively painless. Again, there can be unilateral inguinal lymphadenopathy, but not the, but it's not tender and it's very firm, rubbery, back to palpation. So this would be much more typical of syphilis versus what we talked about with the typical clinical appearance of chancroid.

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Now, to make things complicated, however, a co-infection can occur. And so, genital ulcers, there's definitely been laboratory evidence of co-infection, you could have syphilis and chancroid, you could have herpes and chancroid, you could have HIV and chancroid, or HIV and syphilis, et cetera et cetera. So you always have to think about co-infection, particularly when the ulcers are atypical looking.

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So this is a patient that we saw, with a large, pretty painful, looked fairly wide, type of ulcer that looked like a giant chancroid variation, but there was induration at the base of the lesion, and this patient ended up having both a positive dark field for syphilis, as well as a positive culture for chancroid. So just have to keep in mind that co-infection is possible.

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So in terms of clinical evaluation, you want to document the clinical appearance, specifically the size of the ulcer, the number of the ulcers if there are multiple ulcers, the presence or absence of induration is very important, is there induration or no induration. The appearance of the borders, are they rolled up, a sort of indurated border versus an excavated, punched-out appearance on the border, the color of the base of the ulcer, is it necrotic or peach, and then exudate, is it clear, in the case of herpes, is clear exudate, in the case of syphilis it's clear exudate, in the case of chancroid it's a purulent exudate. And then if there are nodes present, you would also document the size, the number, and the degree of firmness of the inguinal nodes. Remembering that syphilis lymphadenopathy would be the most firm, herpes are equally firm and tender, whereas with syphilis the nodes are firm but not tender, and then with chancroid they are somewhat tender but very fluctuate and soft. So you would do a dark field if you have that capability, or send a specimen for DFA, for treponema pallidum, and then you would do syphilis antibody testing. The FTA, you would try to order the treponema-specific antibody test, even though you oftentimes would start with an RPR in some settings, you would want to order the FTA and the Elisa, all three. In primary syphilis, the FTA usually becomes positive before the RPR, and even the Elisa in our experience. So then you also would culture, or do a PCR test for herpes simplex, obviously do an HIV test, screen for other STD's, gonorrhea and chlamydia included, and all sites exposed. And then culture for hemophilus ducreyii, we're gonna talk more about that. If it's available. It generally is not available in upstate New York, so we'll talk about that in more detail. But that's basically the clinical workup.

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And then, this is the criteria for treatment without a positive laboratory test. So the CDC criteria to treat presumptively for chancroid, is the clinical diagnosis, which is involving one or more painful genital ulcers, the clinical presentation and the present lymphadenopathy typical for chancroid, so that typical clinical appearance I described, or the ulcer, and then the bubo if it is present, would be important in the diagnosis. And then basically no evidence of syphilis or herpes. So if it's an ulcer, typical clinical appearance, the tests for syphilis and herpes are negative, then you could presumptively treat. You also would report the case to the state health department, based on this clinical criteria.

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The laboratory diagnosis is based on a culture. Selective media is used, it's referred to as New York City medium. It's not readily available in upstate New York, however, but in the late 80's and early 90's when we did have dozens of cases of chancroid here, we did make an arrangement to have the medium sent to the laboratory at University of Rochester, and so we did have the culture media available at that time. So if you suspect that you're having an outbreak, you could call your local health department and they could help you in getting the New York City medium that you would use for a definitive diagnosis of hemophilus ducreyii, and chancroid. But in the meantime, in most cases now, because they were not the common, you would treat presumptively based on that clinical criteria.

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So the treatment is fairly simple. Ceftriaxone, 250 milligrams, or azithromycin. You could use ciprofloxacin or erythromycin, as indicated, but the easiest would be the ceftriaxone, or the

azithromycin. I guess I said before, you would report the case, and the partners are treated prophylactically for all sex partners within the previous two weeks, because the incubation period is short, remember one to 10 days, you only go back two weeks, as opposed to longer periods of time for partner treatment for gonorrhea or chlamydia or syphilis. I could tell you that as bad as the ulcers look, when you see them, because they can be kind of deep and severe, after ceftriaxone 250, which is what we were mostly using at that time to treat, the patients could look almost completely healed within three days or four days, so it's really very dramatic response to the therapy, using the ceftriaxone.

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And then, in terms of follow-up, you would wanna see the patient again in three to seven days. If there's not significant improvement you really need to go back and look at your differential diagnosis, and think about expanding that. Because usually the ulcers would be significantly improved. In the past, as I said before, we have the chancroid outbreak, there was association of chancroid cases within certain social sexual networks. So persons who were involved in cocaine selling, or cocaine using, people who were visiting certain crack houses, et cetera, having exchanged sex. There were a lot of cases that were connected through social sexual networks. And then, just keep in mind there's a very high likelihood of HIV seroconversion, and that may take longer to detect, because you're seeing a patient in that one to 10 day period, so you'd wanna repeat the HIV test in a month, after treatment for the chancroid.

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