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Lichen sclerosus Mistaken for Sexual Abuse – Prevention of Victimization

Verwechslung des Lichen sclerosus mit sexuellem Missbrauch – Viktimisierung vermeiden

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Key words
- Lichen sclerosus
- sexual abuse
- children
- forensic medicine

Schlüsselwörter
- Lichen sclerosus
- sexueller Missbrauch
- Kinder
- Rechtsmedizin

Abstract

This case report describes the forensic examination of 7 girls aged between 4–11 years with suspected sexual abuse. The children had been reported by local pediatricians, hospital physicians or authorities such as the youth welfare office and police due to mucosal changes in the anogenital area. All children presented with a clearly delimited, porcelain-like white discoloration of the skin in the anal and genital area with atrophic conversion to parchment-like skin. The markedly vulnerable skin exhibited very different manifestations of hemorrhagic dermal and mucosal defects in the area of the labia, the clitoris, the perineum and the perianal region. The hymen was intact in all cases. The skin changes are typical of lichen sclerosus et atrophicus, which is more common in prepubertal girls and postmenopausal women. Due to the chronic course, affected persons can develop sclerotic plaques, synechia of the labia minora and stenoses of the urinary tract and of the vaginal orifice, so that an early diagnosis is crucial. This condition is not infrequently taken by attending physicians as a sign of suspected sexual abuse, as the relevant findings are not recognized correctly. Furthermore, there are far-reaching consequences for the affected families, who are often faced with criminal prosecution, a breakdown of social familial structures and an enormous psychological burden for the affected persons. To avoid victimization there is an urgent need for more information about the differential diagnoses of sexual abuse and a call for interdisciplinary co-operation when evaluating abnormal anogenital findings in children.

Zusammenfassung

Die Falldarstellung beschreibt die rechtsmedizinische Untersuchung von 7 Mädchen im Alter von 4–11 Jahren bei Verdacht auf sexuellen Missbrauch. Die Kinder wurden aufgrund von Schleimhautveränderungen im Anogenitalbereich von niedergelassenen Pädiatern, Klinikärzten oder Behörden wie Jugendamt und Polizei vorgestellt. Alle Kinder wiesen eine scharf begrenzte porzellanartige Weißverfärbung der Haut im Anal- und Genitalbereich mit atrophischem Umbau zu pergamentartiger Konsistenz auf. Die deutlich vulnerable Haut zeigte unterschiedlichste Ausprägungen von hämorrhagischen Haut- und Schleimhautdefekten im Bereich der Labien, der Klitoris, des Perineums sowie der Perianalregion. Das Hymen war in allen Fällen intakt. Die Hautveränderungen sind typisch für einen Lichen sclerosus et atrophicus, welcher sich gehäuft bei präpubertären Mädchen und postmenopausalen Frauen findet. Durch den chronischen Verlauf kann es zu sklerosierenden Plaques, Synechien der Labia minora und Stenosen der Harnröhre sowie des Introitus kommen, sodass eine frühzeitige Diagnosestellung von großer Bedeutung ist. Nicht selten wird von betreuenden Ärzten ein stattgehabter sexueller Missbrauch vermutet, da die wegweisenden Befunde nicht als solche erkannt werden. Hieraus ergeben sich weitreichende Konsequenzen für die betroffenen Familien mit oftmals strafrechtlicher Verfolgung, Zerrüttung sozialfamiliärer Strukturen sowie enormen psychischen Belastungen für die Betroffenen. Zur Vermeidung einer Viktimisierung besteht dringender Aufklärungsbedarf über Differenzialdiagnosen eines sexuellen Missbrauchs und Aufforderung zur interdisziplinären Zusammenarbeit bei der Beurteilung auffälliger anogenitaler Befunde von Kindern.

Bibliography
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Balanitis xerotica obliterans was first described in 1887, in the case of a child it was first described in 1962, with changes to the foreskin of a 7-year-old boy [3,7]. Lichen sclerosus (LS), as it is called today, is a disease characterized by a chronically progressive, cutaneous transformation process. Although indeed the exact pathogenesis of lichen sclerosus remains unclear and is complex, it is nowadays generally accepted that lichen sclerosus is an autoimmune disorder. The condition has been associated clinically and immunologically with autoimmune thyroiditis, pernicious anemia, vitiligo, morphea, and alopecia areata. Up to 14% of girls with lichen sclerosus may have concurrent autoimmune disease [2]. The disease occurs more commonly in prepubertal girls and post-menopausal women. 7–15% of all cases of the disease affect girls of prepubertal age [11]. The prevalence of the disease is described as being 1:300 to 1:1 000 in women, and 1:900 in girls. With a ratio of 10:1, girls are affected significantly more often than boys [8]. Symptoms of genital LS include a porcelain-like white discoloration around the anus and external genitals with atrophic transformation of the affected skin to parchment-like skin [6]. The sclerotic transformation process increases the vulnerability of the skin, which not infrequently leads to fissures and painful rhagades with bleeding. In 80% of the cases, symptoms include marked pruritus and pain in the anogenital region. In addition, dysuria, purpura, constipation and genital erosions can occur [8]. Treatment options include topical corticosteroids (Clobetasol proprionate 0.05%) and the calcineurin antagonists tacrolimus and pimecrolimus [9]. In case of a persistent course of LS there is an increased risk of squamous-cell carcinoma, which is why early diagnosis in childhood is of paramount importance. Due to the appearance of the anogenital mucosal findings (hemorrhagic lesions), LS is not infrequently misdiagnosed as sexual abuse [9]. Merely the suggestion of this suspicion can lead to unjustified criminal prosecution and a disruption of social familial structures. To avoid victimization there is an urgent need for more information from a forensic perspective and a call for interdisciplinary co-operation when evaluating such findings. The following cases of the Forensic Outpatient Department at the Institute for Forensic Medicine Mainz illustrate the resulting problems.

Case 1: An 11-year-old girl was brought to the institute due to suspected sexual abuse. The mother reported that her daughter had been sexually abused at the age of 3 years. Currently for 2 years the child had been suffering from marked pruritus and pain in the genital region. The child's attending pediatrician diagnosed a fungal infection of the anal region, without however having carried out a microbiological smear beforehand. The forensic examination revealed hourglass-like hypopigmentations on the labia and in the perianal region. The skin exhibited signs of atrophy. In addition, small superficial skin defects and ecchymosis were repeatedly observed. Multiple superficial fissures were found near the perineum. The hymen was intact, and the anus showed no signs of trauma. Against the backdrop of all the findings, the diagnosis of LS was established, and there was no reason to suspect sexual abuse (**Fig. 1**).

Case 2: A 4-year-old girl was brought to the institute due to suspected sexual abuse. The mother reported that she had noticed a white discoloration of the anal region in the past 6 months. Along with increasing pain, the child developed marked pruritus in the genital region and defecation was restricted due to pain. Before this visit, the mother and daughter had been repeatedly confronted with the diagnosis of sexual abuse by several physicians. The mother, who herself had been the victim of sexual abuse for many years in childhood, suffered severe re-traumatization because of the diagnosis. The forensic examination revealed hourglass-like, whitish skin changes as well as striped and patchy ecchymosis in the region of the labia, the clitoris and the anal region. The semilunar hymen was intact and the vaginal orifice narrow. In the region of the anus there were superficial fissures. All in all, the findings were common of LS, so that the primary suspicion of sexual abuse could be averted (**Fig. 2**).

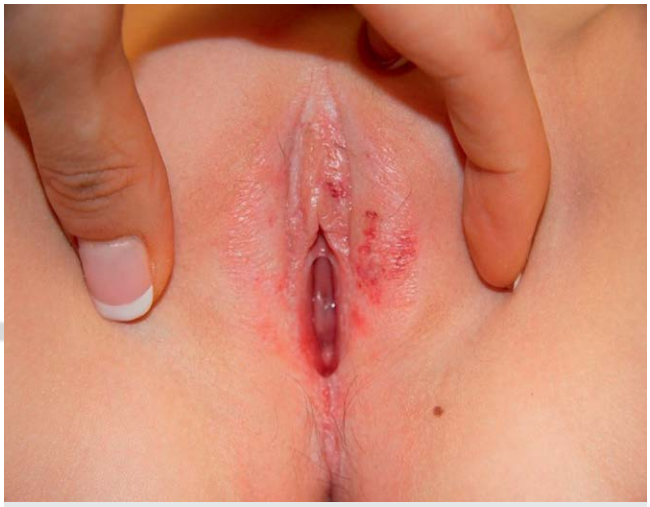

Fig. 1 Findings of genital examination with superficial ecchymosis and hypopigmentation (case 1).

Case 3: A 5-year-old girl with Turner syndrome was sent to the pediatric hospital for a consult due to suspected sexual abuse based on changes in the genital region. According to her parents, the child suffered from severe pruritus in the genital region. The forensic examination revealed clearly delimited, whitish and atrophic areas of skin near the labia majora and minora, the perineum and the perianal region. Furthermore, there was a minor hemorrhage near the left crus of the clitoris. The semilunar hymen was intact, the vaginal orifice narrow, and the anus showed no signs of harm. All in all, the changes were similar to those seen within the context of LS. The suspicion of sexual abuse could not be confirmed.

Case 4: By order of the Hospital for Gynecology, an 8-year-old female patient was sent to the institute due to bruising of the left labia minora with suspected sexual abuse. According to the parents, the injury was caused by a fall from the jungle gym. Within the scope of the examination, whitish, atrophic skin changes were observed near the labia majora and minora, the perianal region and the perineum. Near the left labia minora, in the vicinity of the clitoris, there was a pin-sized mucosal defect. The semilunar hymen was intact and the vaginal orifice narrow. The findings are consistent with LS, signs of abuse were not identified.

Case 5: Within the scope of the preparations for a planned ear, nose and throat surgery of a 7-year-old girl, hemorrhagic perianal injuries needing surgical attention were observed as incidental findings. The physicians suspected that these had been caused by sexual abuse. Perianal, open and severely hemorrhagic skin defects that extended to the posterior commissure of the labia were observed. According to the child's mother, the girl had fallen onto a step 2 days before the surgery. The skin of the genital and perianal region exhibited porcelain-like, white discoloration with a parchment-like consistency, so that LS was diagnosed. However, while the injuries appeared to be unusually severe for LS, they may have generally been caused by manipula-

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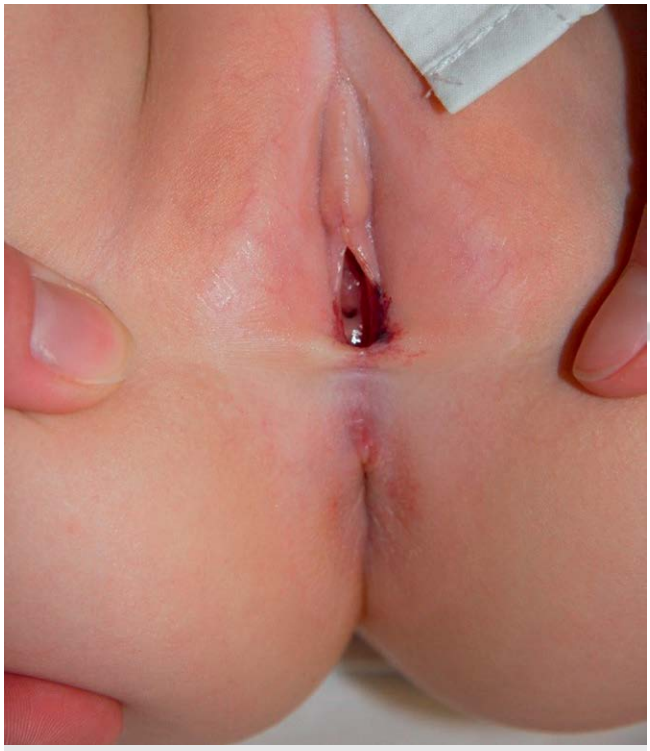

Fig. 2 Whitish skin changes in the perianal and labial region. Bleeding near the left labia minora (case 2).

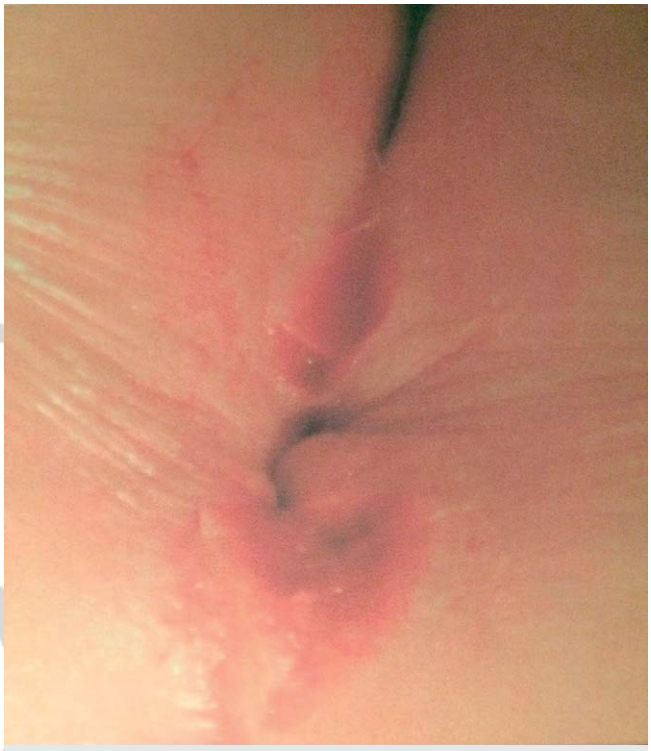

Fig. 3 Open, perianal, hemorrhagic skin defects extending to the posterior commissure of the labia (case 4).

tions within the context of medical care, such as excessive spreading of the buttocks when introducing a thermometer or suppository as part of surgical preparations. However, in the end, the suspicion of recent child abuse could not be fully averted by the forensic assessment (**Fig. 3**).

Case 6: The Criminal Investigation Department requested the examination of an 8-year-old girl due to suspected sexual abuse. The girl reported that a family friend had performed manipulations with his fingers in her genital region. The physical examination revealed shiny whitish, clearly delimited areas of skin near the labia, the dome of the clitoris and the perineal region. On the inside of the labia, the clitoris and in the vestibule of the vagina there were also reddish, small hemorrhages, which had the appearance of LS. The hymen was intact. Bearing in mind that the skin is particularly vulnerable in the presence of LS, the hemorrhaging could have been caused by external manipulations. At the same time, the findings could have been caused by LS alone. In view of the intact hymen, vaginal penetration is not likely to have occurred.

Case 7: The pediatric hospital referred a 5-year-old girl with pain in the genital region for a second opinion due to suspected sexual abuse. The skin in the genital and perianal region appeared whitish and atrophic. In the region of the right labia minora there was a bruise which reached to the posterior commissure. The diagnosis of LS also helped avert criminal prosecution in this case (**Fig. 4**).

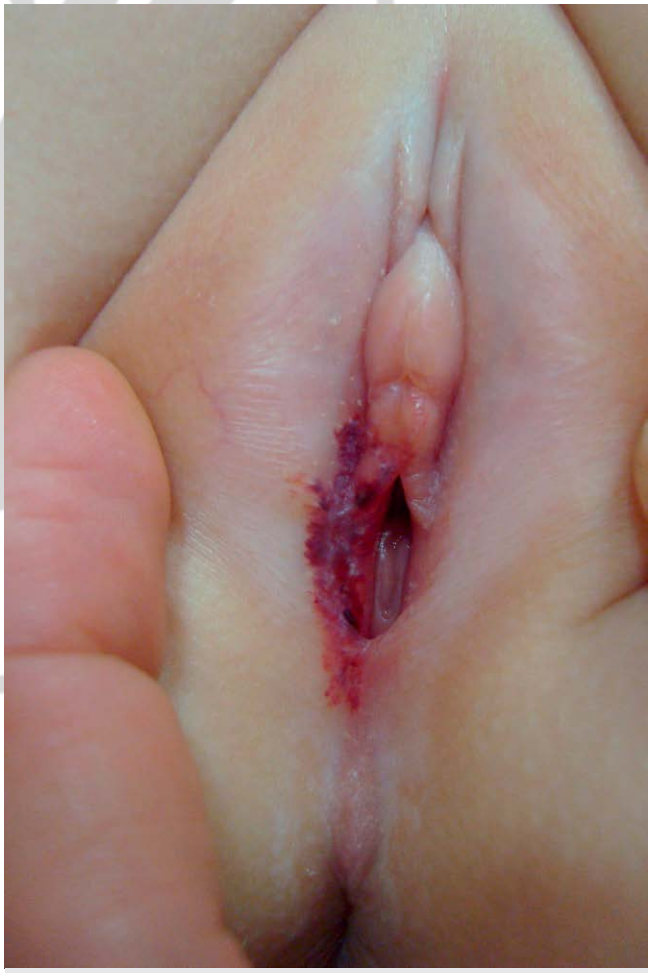

Fig. 4 Whitish atrophic skin in the genital and perianal region with ecchymosis near the right labia minora reaching to the posterior commissure (case 7).

Discussion

The cases presented here demonstrate the often widespread uncertainty of attending physicians with the diagnosis of LS. As LS often manifests in very different ways, establishing this diagno-

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sis is often difficult, even when several, partly specialized experts (local pediatricians, pediatric and gynecological hospital physicians) are involved. This means that the affected children, who are often suspected to have been sexually abused, often have to endure many visits to the doctor, always associated with many questions, before the disease is finally diagnosed correctly, often after months or even years.

LS is characterized by whitish, hypopigmented areas of skin in the anogenital region. Due to the vulnerability of the shiny, atrophic skin, patients are more susceptible to hemorrhagic fissures and ecchymosis, which can already occur with mild pressure and minimal manipulations. The vagina and hymen are not affected. Due to the chronic course, patients can develop sclerotic plaques, fusion of the labia minora, contraction and stenosis of the urinary tract and of the vaginal orifice. External manipulations (scratching due to severe pruritus, wiping with toilet paper, etc.), infections or also sexual abuse are thought to increase the efflorescences. This so-called Koebner response appears to have a triggering function [5]. The diagnosis of LS therefore in no way rules out previous sexual abuse. Damage to the hymen and deep mucosal defects in particular are important markers for sexual abuse, even in the presence of LS. If sexual abuse is suspected, a detailed medical history regarding previous skin changes, pain and pruritus in the genitoanal region should be obtained. Constipation, dysuria and traces of blood on the underwear can be important indications. Often, the medical history reveals that a fungal infection in the genital region which was confused with LS was diagnosed in the past. In the end, because of the typical clinical picture, LS is a clinical diagnosis which usually does not have to be confirmed with a skin biopsy from the affected area.

This case report is meant to highlight the problem of misdiagnosing sexual abuse due to a lack of experience of physicians with such cases. In the German pediatric literature LS was first described in 1998, so some knowledge to German Pediatricians could have been possible but obviously does not appear to be widespread [4]. In Germany, children who are suspected to have been sexually abused are generally examined by forensic specialists, so that the Forensic Outpatient Department of the Forensic Faculty Mainz assesses several hundred children with suspected sexual abuse every year. In the literature available to us there are only isolated reports about difficult differentiations between LS and sexual abuse. For example, Isaac et al. reported about a similar case in the USA with tragic consequences of the attempted further suicide of the child's mother [5]. In Saudi Arabia, Al-Khenaizan et al. reported about a 3-year-old girl with LS. In spite of an examination by a team specialized in cases of child abuse, sexual abuse was mistakenly diagnosed [1]. In a study conducted by Powell and Wojnarowska attending physicians or family members mistakenly suspected abuse in 17 of 72 cases of LS [10]. In 1999 Wood and Bevan described 3 cases in which the suspicion of child abuse was established prior to the correct diagnosis of LS. In Great Britain, this was the cause for public stir after the events in Cleveland in 1987, in which pediatricians diagnosed symptoms of abuse in 121 cases, which were later shown to be incorrect [12]. The problem thus appears to be a global one and therefore, for reasons of prevention, worthy of reporting.

From the point of view of forensics, the consequences of diagnosing child abuse are sufficiently well known. In the worst cases, the consequences of criminal prosecution can lead to the unwarranted imprisonment of suspected persons. The families in question often have to endure a long series of inquiries by the authorities which can quickly lead to the child being taken into custody. The previously intact family situation is destroyed, and the stress endured by the affected children can lead to serious psychological problems. In order to prevent victimization it is necessary to rapidly establish the correct diagnosis with the aid of an interdisciplinary effort involving pediatricians, gynecologists, dermatologists, youth welfare authorities, the police and forensic specialists.

Contributor's statement

C. Pickhardt, conceptualized and designed the case report, drafted the initial manuscript, and approved the final manuscript as submitted. B. Navarro-Crummenauer, carried out the initial analyses, reviewed and revised the manuscript and approved the final manuscript as submitted. R. Urban coordinated and supervised data collection at 2 of the 4 sites, critically reviewed the manuscript, and approved the final manuscript as submitted.

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References

1 *Al-Khenaizan S, Almuneef M, Kentab O.* Lichen sclerosus mistaken for child sexual abuse. Int J Dermatol 2005; 44: 317–320
2 *Bercaw-Pratt JL et al.* Clinical Recommendation: Pediatric Lichen Sclerosus. J Pediatr Adolesc Gynecol 2014; 27: 111–116
3 *Hallopeau H.* Du lichen plan et particulierement de sa forme atrophique: lichen plan sclereux. Ann Dermatol Syphiligr (Paris) 1887; 8: 790
4 *Herrmann B, Veit S, Neises M.* Lichen sclerosus et atrophicus. Wichtige Differentialdiagnose zu sexuellem Missbrauch von Kindern. Pädiatrische Praxis 1998; 55: 319–324
5 *Isaac R, Lyn M, Triggs N.* Lichen sclerosus in the Differential Diagnosis of Suspected Child Abuse Cases. Pediatr Emerg Care 2007; 23: 482–485
6 *Jensen LS, Bygum A.* Childhood lichen sclerosus is a rare but important diagnosis. Dan Med J 2005; 59: 1–4
7 *McLelland J.* Lichen sclerosus in children. J Obstet Gynaecol 2004; 24: 733–735
8 *Poindexter G, Morrell DS.* Anogenital Pruritus: Lichen Sclerosus in Children. Pediatric Annals 2007; 36,12: 785–791
9 *Powell J, Wojnarowska F.* Childhood vulvar lichen sclerosus: An increasingly common problem. J Am Acad Dermatol 2001; 44: 803–806
10 *Powell J, Wojnarowska F.* Childhood vulvar lichen sclerosus and sexual abuse are not mutually exclusive diagnoses. BMJ 2000; 320: 311
11 *Smith SD, Fischer G.* Childhood Onset Vulvar Lichen Sclerosus Does Not Resolve at Puberty: A Prospective Case Series. Pediatric Dermatology 2009; 26: 725–729
12 *Wood PL, Bevan T.* Child sexual abuse inquiries and unrecognised vulval lichen sclerosus et atrophicus. BMJ 1999; 319: 899–900

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