IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 21, Issue 8 Ser.7 (August. 2022), PP 35-38
www.iosrjournals.org

Norwegian scabies a rare entity -case report

Dr. Nidhi Sanwalka[1], Dr. Priyanka Sharma[2], Dr. Mukta[3], Dr. Madhvi Sanwelka[4]

1) Post graduate, Deparment of Medicine, Rukmani devi Beni Prasad Jaipuria hospital, Jaipur
2) Consultant, Department of Dermatology, Rukmani devi Beni Prasad Jaipuria hospital, Jaipur
3) Post graduate, Department of Pathology, NIMS&R, Jaipur
4) Senior Demonstrator, Department of Pathology, NIMS&R, Jaipur
Corresponding author- Dr. Madhvi sanwelka

ABSTRACT
Scabies is caused by Sarcoptesscabiei or the itch mite which is an obligate parasite arthropod that burrows into skin (stratum corneum). We present a case report of 61 year old male presented with complaints of crusting, hyperpigmantation of skin from head to toe except web of fingers. Early recognition of this disease is important as misdiagnosis can lead to spreading of this to the family members and super infections in patient. Treat all family members if they show symptoms who come in contact with the patient as it is highly contagious.

Date of Submission: 06-08-2022 Date of Acceptance: 21-08-2022

I. Introduction

Scabies is caused by Sarcoptesscabiei or the itch mite which is an obligate parasite arthropod that burrows into skin (stratum corneum). Female mite, which is the chief culprit, about 400 microns in length, has four pairs of legs with a round body. It not only infects humans but also other mammals like dogs, cats, ungulates and wild boars.[1] Its discovery in 1687 marked it the first disease with a known cause.[2] Danielessen and Boeck first described crusted scabies previously known as Norwegian scabies in Norwegian patients with leprosy in 1848. Hyperkeratotic and scaly plaques are characteristic lesions caused by overwhelming infection by sarcoptesscabiei mites.[3,4] This is extremely infectious and promp diagnosis and treatment is required for disease control. The lesions are characteristically found on the extremities, but may be found on back, nail folds, face and scalp.[5] Patients who are immune-compromised are prone to this disease, such as leprosy, SLE, lymphomas, parkinson's disease, syringomyelia, tabes dorsalis, diabetes mellitus, cutaneous vasculitis, HIV, immune deficiency disorder and malnutrition. Patients of Down's syndrome and mental retardation can also be affected.[6]

We report a case study of man suffering from Norwegian scabies all over the body.

II. Case Report

A 61 year old male came in outdoor department of Dermatology with complaints of extensive, generalized, thick, hyperkeratosis, crusting, progressing gradually, all over body from scalp to toes except the web of the fingers for last 3 months (figure 1,2,3,4). Itching was not present at the time of presentation. Patient was already suffering from COVID-19.

On detailed history it was found that patient had itching in the beginning for which he was applying ointment betamethasone locally for one month. He was a known case of hypertension also. Laboratory investigations were done in which total leukocytes were 5137 UL. Eosinophils were raised (10.3%). He was diagnosed with diabetes mellitus as HbA1c was found to be 7.34%. All other parameters were within normal limits.

Punch biopsy from abdomen and scraping of scales were taken and sent for microbiological examination. On microscopic examinations of scrapings on KOH mount, scabies mites were seen.

The patient was diagnosed as Norwegian scabies. Patients was started with Ivermectin (12 mg) for three weeks and topical Permethrin cream with meticulous scrubbing and skin cleansing under antibiotic cover and antivirals for COVID-19, which resulted in complete resolution of Norwegian scabies four weeks later (figure 5 and 6).

Figure 1,2,3:- Crusted, hyper pigmented lesions over scalp, toes and anterior abdomen repectively

Figure 4:- web of the fingers of the patients which were not affected.

Figure 5 and 6:- Patient with resolved lesion

III. DISCUSSION

Norwegian scabies produce intense, itchy skin rashes where female burrows tunnel into the skin and deposits eggs into burrow. The larva, hatches in 3-10 days move about on the skin, moult in to nymphal stage and then mature into adult mite. The adult mite lives for 3-4 weeks in skin. The cutaneous manifestation are due to humoral and delayed hypersensitivity reaction.[7] the failure of the immune system will suppress the proliferation of mite and results in crusting. Defective T-cell immune response or decrease cutaneous response results in crusted scabies. Hyperkeratosis of skin is due to increased level of interleukin-4.[8]

Norwegian scabies is a highly contagious disease. The predominant route is skin-to-skin contact. Transmission through fomites is common in crusted scabies.

Itching, which is a hallmark of Norwegian scabies is minimal or absent. The eruption is slow and insidious. It may also present as psoriasiform dermatitis, warty dermatoses of hands and feet with hypereratosis of nails. Rarely does it involve whole body which is seen in our case. This leads to condition known as erythroderma.

It can be complicated by secondary bacterial infections, mainly by staphylococcus aureas resulting in impetigo, cellulitis, lymphangitis and erythrma.[9] Lymphadenopathy and sepiciemia may also occurs.

Differential diagnosis of Norwegian scabies include psoriasis, eczema, darier's disease, seborrheic diasese, lichen planus, cutaneous lymphoma and pityriasis rubra pilaris.

Diagnosis is mainly based on clinical findings and demonstration of mite in skin scrapping microscopically. The specimen should be taken by scraping skin from blunt end of scalpel and placed on glass slide. Add mineral oil on it and place a glass cover slip on the top.

Microscopic examinations reveal epidermis showing marked orthokeratosis, parakeratosis, acanthosis and infiltration by chronic inflammatory cells. Sub corneal layer shows burrows with female mites, egg and feces (scybala). All stages o development of mite can be seen, i.e. egg, larva, nymph and adult. In spinous zone spongiosis and neutrophilic abscess are seen. In dermis dense superficial and deep perivascular infiltrate of plasma cells is present. Eosinophils and neutrophils around blood vessels can be seen.[10]

Non-invasive techniques like epiluminescence and high-resolution videodermatoscopy can also be used to visualize the mite in patient's skin.

Eosinophilia is found in 58% of the affected patients. It is also seen in the present case also. The median immunoglobulin E levels were elevated in patients.[11] Polymerase chain reaction by using DNA finger printin system can be used to check if patient is cured or reinfested.

Patient should be isolated from all to prevent outbreak of scabies. The household contact and hospital staff should take extra precautions. Scabicidals should be applied on nails as this is a frequent source for replace. The treatment includes scabicidals and keratolytic agents to remove thick crusts which are a nidus of mites. Symptomatic treatment including antihistaminic, emollients and antibiotis for pruritus, dry skin and septiciemia respectively. Topical permethrin in a 5% cream is the preffered scabicidal agent. Ivermectin is an effective oral scabicidal. It is contraindicated in patients suffering from central nervous system disorders and who are allergic to this drug. A single dose is effective but sometimes two-three doses at an interval of 1-2 weeks are required. The reason is because Ivermectin has no residual activity and if re-infection occurs then its treatment has to be repeated.[12,13] Benzyl benzoate is neurotoxin to mites. It is used as 25% emulsion for 24-36 hrs. it can be used in permethrin resistant cases and in combination with Ivermectin where patients has a relapse after a single treatment with ivermectin.[14,15]

Environmental decontamination is needed in Norwegian scabies as the crust has mites and viable eggs which are hazardous to others. Gloves and gowns should be used during changing of beddings. Washing of clothes and bed linens should be done at 60^0c. Use aerosols or infectious materials for the material which cannot be washed.[16] In all the contact cases, permethrin 5% cream should be used as first line of treatment, followed by lindane and oral ivermectin as second and third line respectively.

IV. CONCLUSION

We presented a case report in which patient was diabetic and COVID-19 positive. He presented with extensive, generalized, thick, crusting all over body from scalp to toes except the web of the fingers. He was using betamethasone locally for one month. It is important to diagnose Norwegian scabies correctly and promptly, as misdiagnosis can lead to spreading of this to the family members and super infections in patient. Treat all family members, if they show symptoms, who come in contact with the patient as it is highly contagious.

FUNDING
None as stated by authors

CONFLICT OF INTEREST
None as stated by authors

REFERNCES

[1]. B. Pence & E.Ueckermann (2002). "Sarcoptic mange in wildlife" (PDF). Scientific and Technical Review of the World Organisation for Animal Health 21 (2): 385398.
[2]. Orkin, M. (25 August 1975). "Today's Scabies". JAMA 233 (8): 882885.
[3]. Schlesinger I, Oelrich DM, Tyring SK. Crusted (Norwegian) scabies in patients with AIDS: The range of clinical presentations. South Med J. 1996; 87:352–356.
[4]. Guldbakke KK, Khachemoune A. Crusted scabies: a clinical review. J Drugs Dermatol. 2006; 5:221–227.
[5]. Cestari SC, Petri V, Rotta O, Alchorne MM. Oral treatment of crusted scabies with ivermectin: report of two cases. PediatrDermatol. 2000; 17:410–414.

[6]. Mehta V, Balachandran C, Monga P, Rao R, Rao L. Norwegian scabies presenting as erythroderma. Indian J Dermatol Venereol Leprol 2009;75:609-10.
[7]. 7)en.wikipedia.org/w/index.php?title=sarcoptes_scabiei&oldid=589228276.
[8]. Morsy TA, Romia SA, al-Ganayni GA, Abu-Zakham AA, al- Shazly AM, Rezk RA. Histocompatibility (HLA) antigens in Egyptians with two parasitic skin diseases (scabies and leishmaniasis). J Egypt Soc Parasitol 1990;20:565-72.
[9]. Roberts LJ, Huffam SE, Walton SF, Currie BJ. Crusted scabies: Clinical and immunological findings in seventy-eight patients and a review of the literature. J Infect 2005;50:375-81.
[10]. Ackerman AB. Histopathology of human scabies. Orkin M, Maibach HI, Parish LC, and Schwartzman RM Eds. Philadelphia: Lippincott; 1977. p. 88-95.
[11]. Arlian LG, Morgan MS, Estes SA, Walton SF, Kemp DJ, Currie BJ. Circulating IgE antibodies with ordinary and crusted scabies. J Med Entomol 2004;41:74-7.
[12]. Chosidow O. Scabies and pediculosis. Lancet 2000;355:819-2I.
[13]. Cestari SC, Petri V, Rotta O, Alchorne MM. Oral treatment of crusted scabies with ivermectin: Report of two cases. Pediatr Dermatol 2000;17:410-4.
[14]. Anderson BM, Haughen H, Rasch M. Outbreak of scabies in Norwegian nursing homes and home care patients; Control and prevention. J Hosp Infect 2000;45:160-4.
[15]. Alberici F, Pagani L, Ratti G, Viale P. Ivermectin alone or in combination with benzyl benzoate in the treatment of human immunodeficiency virus associated scabies. Br J Dermatol 2000;142:969-72.
[16]. Schlesinger I, Oelrich DM, Tyring SK. Crusted (Norwegian) scabies in patients with AIDS: The range of clinical presentations. Crusted (Norwegian) scabies in patients with AIDS: The range of clinical presentations. South Med J 1994;87:352-6.

Dr. Madhvi sanwelka, et. al. "Norwegian scabies a rare entity -case report." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(08), 2022, pp. 35-38.