

Dermatosis Neglecta Involving Different Age Groups- A Series of Four Cases

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ABSTRACT

Dermatosis neglecta is a benign cutaneous condition which is often misdiagnosed. It occurs due to poor local hygiene or inadequate washing of a part of the body resulting in progressive accumulation of sebum, sweat, keratin and other debris which form an adherent crust of dirt. It mainly occurs in individuals who are unable to take care of themselves, like those with physical disability or psychosis. It is usually asymptomatic and is characterised by localised hyperpigmented patch or verrucous papules and plaques. Rubbing the affected area with alcohol-soaked gauze results in complete clearance of the lesion which is both diagnostic and therapeutic. The present case series describes four patients of different age groups. The first patient was a 65-year-old female, who underwent amputation of the gangrenous toes of right foot. She did not wash that leg for several weeks following surgery and developed cornflakes-like scaly lesions. Later lesions were diagnosed as dermatosis neglecta. Second case was an 18-year-old male, who presented with lesions on neck, which was misdiagnosed initially as Pityriasis versicolor. The third patient was a 20-year-old female, who presented with lesions on neck and was earlier diagnosed and treated as acanthosis nigricans. The fourth patient was a two-year-old female who developed lesions on neck due to accumulation of dirt and debris. In all these patients, lesions resolved on rubbing with alcohol-soaked swab. Very little data is available in medical literature about this condition. Therefore this case series is being reported to bring awareness among dermatologists. This would enable prompt clinical recognition and obviate the need for expensive investigations and treatment strategies.

Keywords: Diagnostic challenge, Poor local hygiene, Psychosis, Unwashed dermatosis

INTRODUCTION

Dermatosis neglecta is a cutaneous condition that occurs in patients with physical or psychological morbidities like trauma, surgery, hyperaesthesia, neurological deficits, psychiatric illnesses [1]. These patients are unable to maintain personal hygiene because of their morbidity and physical immobility leading to accumulation of dead skin cells, dirt and debris manifesting as scaly and crusted plaques. [1,2]. Lesions are asymptomatic and patients are often unaware of the skin lesion. Treatment involves complete removal of the lesions and counselling the patients and caregivers to cleanse the skin regularly with soap and water thereby preventing recurrence [3]. In this case series the authors describe dermatosis neglecta in four patients with age group ranging from 2-65 years. Lack of awareness among doctors has led to misdiagnosis. With this case series, the authors intend to create awareness among physicians about this benign, easily treatable condition.

CASE SERIES

Case 1

A 65-year-old lady presented to Dermatology Outpatient Department (OPD) with chief complaints of multiple skin lesions on right leg since one month. There was no history of itching, pain or any other associated symptom. Lesions were insidious in onset and started simultaneously over multiple areas on the right leg and gradually progressed to involve the entire leg over a period of one month. There was no relevant family history.

General physical examination and systemic examination were normal. On cutaneous examination, there were multiple scaly, cornflake-like greasy plaques on her right leg [Table/Fig-1]. She was a known case of uncontrolled diabetes mellitus since several years. She developed gangrene of 4th and 5th toes of right leg and amputation [Table/Fig-2] was done for the same six weeks back.

Following this, she did not wash her legs properly due to pain and fear of causing trauma to the operated site.



[Table/Fig-1]: Cornflake-like greasy plaques on right leg with amputation of 4th and 5th toes (Case 1).



[Table/Fig-2]: Multiple cornflake-like greasy and scaly plaques on right leg (Case 1).

A provisional diagnosis of dermatosis neglecta and ichthyosis vulgaris were made. On wiping the lesions with gauze soaked with spirit, the lesions were coming-off, revealing the normal underlying skin [Table/Fig-3], which confirmed the diagnosis of dermatosis neglecta. She was counselled about the benign nature of her condition and was advised to regularly wash her legs with soap and water with mild

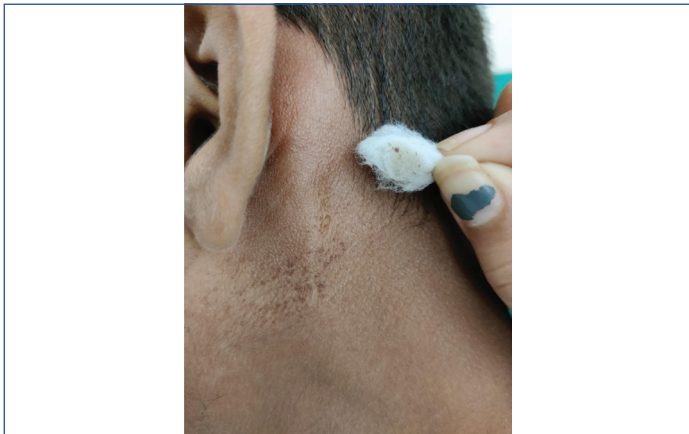
scrubbing in order to prevent recurrence. The patient was followed-up monthly in Dermatology OPD along with follow-up in Surgery OPD. There was no recurrence for four months, after which she was lost to follow-up.



[Table/Fig-3]: Lesions getting cleared on wiping with gauze and spirit (Case 1).

Case 2

A 18-year-old male presented to Dermatology OPD with chief complaints of multiple dark flat skin lesions and few dark raised lesions over the neck since one month [Table/Fig-4]. There was no history of itching, pain or any other associated symptom. Lesions were asymptomatic initially, started as a pea sized lesion and gradually progressed to the present size over a period of one month. There was no significant family history.



[Table/Fig-4]: Hyperpigmented macules and few hyperpigmented and hyperkeratotic papules over the neck just below the earlobes (Case 2).

General physical examination and systemic examination were normal. On cutaneous examination, there were multiple hyperpigmented macules and papules over the neck just below the earlobes. Lesions were extending from 3 cm behind the ear to 2 cm below and in front of the left ear. It was initially diagnosed as pityriasis versicolor and treated with ketoconazole cream. However, patient did not respond to the treatment. On follow-up after three weeks, a few lesions had become hyperkeratotic. On close inspection, it was giving a stuck on appearance. On rubbing cotton soaked in spirit vigorously over the lesion, it was coming-off and underlying normal skin was revealed.

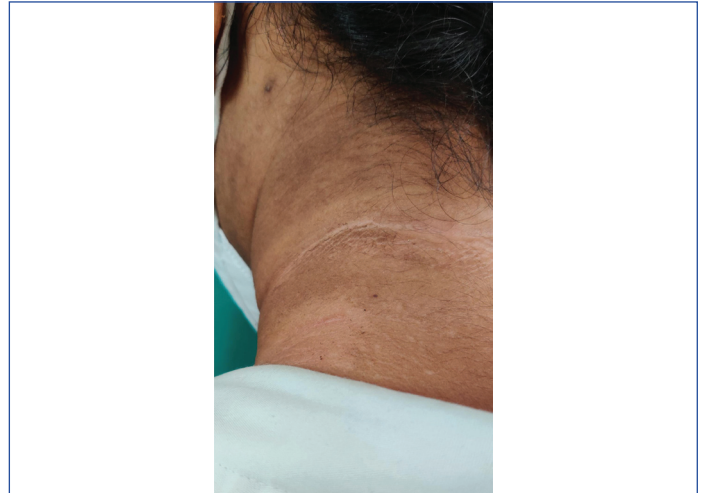
On further questioning about his hygiene habits, he said that he was not washing his neck properly during bath. In the OPD, removal of all lesions was done by vigorously rubbing with cotton and spirit. Thus all the lesions disappeared which confirmed our suspicion of DN and also formed the treatment. He was counselled about good hygiene in the form of daily bath with soap and occasional mild scrubbing to prevent recurrence. The patient was followed-up during one month and two months interval, during which there was no recurrence of the lesions.

Case 3

A 20-year-old female presented to Dermatology OPD with chief complaints of multiple dark raised lesions over the neck since childhood. Lesions were insidious in onset and located in a small area over nape of neck during childhood and progressed gradually

over a period of several years to involve the entire neck crease. There was no itching or burning sensation. There was no significant family history.

On examination there were multiple hyperpigmented, velvety plaques on the neck [Table/Fig-5]. Other areas such as axilla, groin and face were not involved. Systemic examination was normal. A provisional diagnosis of acanthosis nigricans was made. She was treated with triple combination cream containing hydroquinone, tretinoin and fluocinolone along with sunscreen. Since, her Body Mass Index (BMI) was in the normal (23 kg/m²) she was not given alpha-lipoic acid tablets.



[Table/Fig-5]: Multiple dirty looking hyperpigmented, velvety plaques on the neck (Case 3).

After three weeks she reported for follow-up. This time some of the hyperpigmented lesions over the neck were clear and there was mild erythema over the skin. Other area of the neck were still hyperpigmented and velvety. The diagnosis was reviewed and provisional diagnosis of dermatosis neglecta was made. The lesions were rubbed with gauze soaked in spirit and it was found that the lesions were coming off [Table/Fig-6]. When enquired about her bathing habits, she revealed that she was not cleaning her neck with enough soap while bathing since her school days. This has led to progressive accumulation of dirt on her neck. Removal of the lesion on rubbing with cotton and spirit confirmed the diagnosis. Since, the lesions were hyperkeratotic, she was treated with keratolytic agents such as urea containing moisturisers and salicylic acid, which lead to resolution of the lesions. She was advised to wash her neck thoroughly while bathing in future. On follow-up after six weeks, there was complete resolution of the lesions without recurrence.



[Table/Fig-6]: Lesions on neck coming off on rubbing with cotton and spirit (Case 3).

Case 4

A two-year-old female child was brought to Dermatology OPD with chief complaints of dark patches over the neck since three weeks. The mother gave a history that these pigmented lesions started over the neck and gradually increased in size linearly, to involve the shoulder area. There was history of fever two weeks back, which was treated by Pediatrician and resolved. There was no history of itching or pain over the lesions.

On examination, the child was afebrile and active. Systemic examination was normal. Cutaneous examination revealed, multiple linear hyperpigmented plaques over the neck crease anteriorly [Table/Fig-7]. Similar lesions were present over the right shoulder. Since, the morphology did not conform to any particular diagnosis, the lesion was wiped with cotton soaked with spirit. The lesion started to clear off on wiping [Table/Fig-8] revealing the underlying normal skin. On further questioning, the parents revealed that since the child was suffering from fever and because the weather was cold, the child was given bath only once a week for the past three weeks. Based on the history of poor hygiene and the cutaneous examination, a diagnosis of dermatosis neglecta was made. Confluent and reticulate papillomatosis was kept as a differential diagnosis. The remaining lesion was removed by rubbing with cotton and spirit. The parents were counselled regarding the benign nature of the condition and were asked to cleanse the neck area thoroughly with soap and water with mild scrubbing and to regularly bathe the child. The parents were informed for follow-up visit after one month, to check for recurrence of lesions. However, they were lost to follow-up.



[Table/Fig-7]: Multiple linear hyperpigmented plaques over the neck crease anteriorly (Case 4).



[Table/Fig-8]: On wiping with cotton and spirit, the lesions started to clear off (Case 4).

DISCUSSION

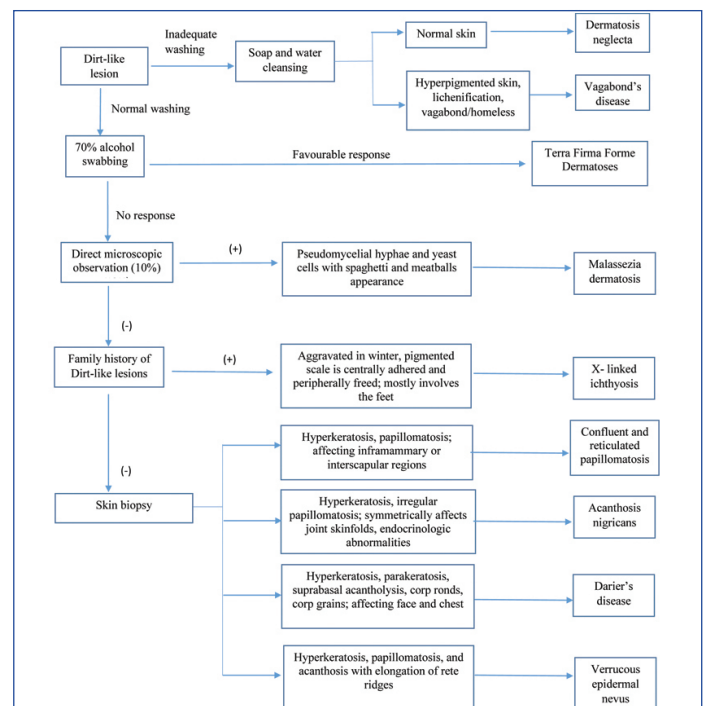
Dermatitis neglecta (DN) was first described by Poskitt L et al., in 1995 [4]. Later, in 1999 Ruiz-Maldonado R et al., proposed the term dermatosis neglecta as there was no associated inflammation [5]. It is a benign condition occurring as a result of failure to adequately clean or scrub the skin. Hence it is also known as 'unwashed dermatosis'. Failure to clean or scrub the skin may be due to a wide variety of causes like trauma, hyperaesthesia, surgery, immobility secondary to hemiplegia or other neurological disorders, physical disability. The exact prevalence is not known as there is gross under diagnosis and misdiagnosis leading to an underestimate of the true prevalence of this condition [6]. Of late there has been an increase in the incidence of dermatosis neglecta developing in a setting of psychiatric background like schizophrenia or frank psychosis [2]. Lack of adequate washing or scrubbing results in progressive

accumulation of corneocytes, dirt, sebum, keratin, sweat and bacteria resulting in a characteristic clinical pattern.

The exact pathophysiology is not known. It is probably due to insufficient exfoliation, progressive accumulation and incomplete maturation of corneocytes with retention of melanin, thus leading to a build up of adherent scales [3]. Skin lesions are seen as dirty looking hyperpigmented, hyperkeratotic or greasy, verrucous plaques over these areas of the body [7].

Dermatitis neglecta should be differentiated from other skin conditions that present as dirty dermatosis such Terra firma forme dermatosis, Confluent and reticulated papillomatosis also known as Gougerot-Carteaud syndrome, verrucous naevi, acanthosis nigricans, post inflammatory hyperpigmentation, atopic dermatitis, frictional asymptomatic darkening of the extensor surfaces, idiopathic deceduous skin, vagabond's disease, acanthosis nigricans, hyperkeratotic Malassezia dermatosis, X-linked ichthyosis [6].

Terra firma-forme dermatosis can be differentiated from dermatosis neglecta by a history of good personal hygiene, lack of corn-flake scale, unresponsiveness to soap and water cleansing and histopathology showing Periodic Acid-Schiff (PAS) stain positive yeast [2]. Confluent and reticulated papillomatosis of Gougerot-Carteaud syndrome has a velvety appearance and is associated with *Pityrosporum orbiculare*. It is seen on the central trunk and is not related to cleaning and has a negative alcohol swab test. In dermatitis artefacta, the lesions are associated with acts of commission, whereas in DN, the lesions are associated with acts of omission [6]. [Table/Fig-9] depicts an algorithm proposed by Tan C to diagnose various conditions that present as dirt-like lesions on the skin [8].



[Table/Fig-9]: Algorithm proposed by Tan C for dirt like lesion on skin [8].

Dermatitis neglecta should be kept in mind in all conditions that present as localised hyperpigmented lesions in a setting of chronic illness. The time of evolution of the lesions is two to four months and the patients usually have an associated chronic disease characterised by pain or disability. Some of the recently reported cases of dermatosis neglecta, which posed a diagnostic challenge are as given in the [Table/Fig-10] [1,7,9-11]. The authors encountered four cases of DN within a short span of time. This suggests that the condition has a high prevalence. In the first case, it was the amputation of toes which lead to lesions on the leg. In the fourth case, due to fever and cold weather, the parents were apprehensive about bathing the child, which lead to DN lesions in

Authors name	Year of publication	Place of study	Case history	Clinical presentation
Kumar PN et al., [1]	2021	Calicut, Kerala, India	Case of OCD who exhibited excessive cleanliness but did not clean the midfacial area. Patient did not elaborate the reason for his obsession.	Symmetrical greasy, dark-brown hyperkeratotic plaques on nose extending to forehead and both cheeks.
Devaraj Y et al., [9]	2020	Mandya, Karnataka, India	A 50-year-old lady with carcinoma of right breast had undergone mastectomy of right breast seven months back.	Multiple hyperpigmented, waxy and verrucous papules on right side of chest over the site of mastectomy and right axilla.
Venkatachalam K et al., [7]	2019	Vishakapatnam, Andhra Pradesh, India	A 9-year-old boy underwent circumcision at the age of two years and since then, neglected to wash the area.	Asymptomatic, hyperpigmented, hyperkeratotic, verrucous plaque on shaft of penis since five years.
Saritha M and Karthikeyan K [10]	2015	Puducherry, India	A 55-year-old female patient who underwent surgery for carcinoma of the lip two months back, followed by flap transfer.	Single, hyperpigmented, well-defined verrucous plaque having a "stuck-on" appearance, of size 5x6 cm on the right cheek over surgical scar measuring 4 cm
Perez-Rodriguez IM et al., [11]	2014	Monterrey, Mexico	A 18-year-old female with depression and social withdrawal	Progressive brown verrucous plaque over her face.
Present study	2022	Karnataka, India	1 st case- 65-years-old lady, who underwent amputation of the gangrenous toes of right foot. 2 nd case- 18-years-old male with lesions on neck. 3 rd case- 20-years-old female, who presented with lesions on neck. 4 th case- 2-year-old child who developed lesions on neck due to accumulation of dirt and debris.	1 st case- multiple scaly, cornflake-like greasy plaques on her right leg. 2 nd case- multiple hyperpigmented macules and papules over the neck. 3 rd case- multiple hyperpigmented, velvety plaques on the neck. 4 th case- multiple linear hyperpigmented plaques over the neck crease anteriorly

[Table/Fig-10]: Comparison of present case with recent cases of dermatosis neglecta reported by various authors [1,7,9-11].

the child. However, in the second and third cases, authors were not able to pinpoint the exact reason for development of the hyperpigmented lesions. Probably differences in the bathing habits of these two individuals may have contributed to this condition. Due to lack of awareness, this condition, it is often misdiagnosed. Authors also misdiagnosed the second case and third case as pityriasis versicolor and acanthosis nigricans, respectively. These two patients did not respond to conventional treatment, which was when we suspected DN.

Treatment of DN is simple, rubbing the lesion with alcohol swab is both diagnostic and therapeutic. Urea 20% cream, glycolic acid 5% cream and lactic acid 12% cream along with daily light scrubbing with a soapless cleanser is also effective. Keratolytics and emollients should be used judiciously [3]. Apart from this, counselling and encouraging the patient to maintain proper cleanliness of the affected region is essential.

CONCLUSION(S)

Thus, dermatosis neglecta can occur in patients belonging to all age groups with varying underlying causes. A high degree of suspicion is required to diagnose it. Dilemma may occur due to similarities with other conditions, about the exact diagnosis which may prompts various investigations leading to loss of time and money of the patients. Timely diagnosis will save the patient from being subjected to expensive investigations. Hence, this case series is

being reported to bring about an awareness among dermatologists and physicians regarding this entity.

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PLAGIARISM CHECKING METHODS: [Jan H et al.]

- Plagiarism X-checker: May 07, 2022
- Manual Googling: Oct 10, 2022
- iThenticate Software: Oct 19, 2022 (7%)

ETYMOLOGY: Author Origin

AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **May 06, 2022**
Date of Peer Review: **Jul 20, 2022**
Date of Acceptance: **Oct 20, 2022**
Date of Publishing: **Dec 01, 2022**