

Lithium induced hidradenitis suppurativa and acne conglobata

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ABSTRACT

Lithium is known to cause a variety of dermatological problems, common ones being acneiform eruptions, folliculitis and psoriasis including its pustular form. Hidradenitis suppurativa and acne conglobata are lesser known side effects, with only three reports so far. We report a patient, who had bipolar affective disorder, was on lithium for a long duration and developed hidradenitis suppurativa and acne conglobata during therapy, which subsequently decreased once lithium was stopped. We describe this case for its rarity and analyze its pathogenesis.

KEY WORDS: Lithium, Hidradenitis suppurativa, Acne conglobata

INTRODUCTION

Lithium is used for the treatment of bipolar disorders and severe depressive illnesses.¹ Acneiform eruptions especially pustular, folliculitis, psoriasis vulgaris and a maculopapular rash are known to be caused by lithium.²⁻⁵ We report a case of hidradenitis suppurativa and acne conglobata induced by lithium.

CASE HISTORY

A 31 year old man on lithium carbonate 400 mg daily, for bipolar affective disorder for nine years, came to us with pustules, erythematous papules and nodules over the cheeks and forehead since two years, and erythematous nodules, abscesses draining seropurulent material, and scarring in both the axillae since a few months. His skin lesions (acneiform eruptions to begin with) started seven years after initiating lithium. At the

time of presentation to us, his psychiatric problems were well under control. Apart from lithium, he was also receiving olanzepine, 2.5 mg, and mirtazepine, 45 mg, once daily at night.

A clinical diagnosis of hidradenitis suppurativa (HS) with acne conglobata (AC) was made. There were no other symptoms or signs. Gram stain of the smear from the discharge did not grow any organism, except for a few commensals. Culture of the discharge too did not grow any organism. Serum lithium level was 0.7 mEq/L at the beginning of his cutaneous problems (i. e. acneiform lesions on the face). Subsequently, when he developed hidradenitis suppurativa and conglobate acne, serum lithium level was 0.869 mEq/L.

He was initially managed with a short course of glucocorticoids (30 mg of prednisolone, daily for seven days), prophylactic antibiotic (oral cephalixin 500 mg

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four times daily for seven days, along with topical fucidic acid ointment twice daily) and topical tretinoin 0.05%, twice daily. However, he did not show significant improvement even after seven days. Lithium was then tapered and stopped. Mirtazepine and olanzepine were continued in the same dose. His inflammatory lesions subsided after two weeks. However, hypertrophic scars were still present.

Subsequently, he developed another exacerbation of HS and AC after four months, even though lithium was discontinued. He responded to a short course of glucocorticoids (prednisolone 30 mg daily for seven days) and prophylactic antibiotic (amoxicillin 500 mg thrice daily for 14 days, along with topical fucidic acid ointment twice daily).

After three months there was another flare up which was brought under control with oral cephalexin 500 mg four times daily and oral doxycycline 100 mg twice daily for fourteen days. Further, oral dapsone 100 mg once daily was started and he is being maintained on this for two months, with no further recurrences.

DISCUSSION

Lithium, a drug used by the psychiatrists to treat bipolar affective disorders, causes more cutaneous complications than any other psychotropic agents.^{1,6} Acneiform eruptions, psoriasis, maculopapular eruptions and follicular eruptions are the commonest cutaneous reactions to lithium.²⁻⁵ How lithium brings about these reactions, is still not fully understood. HS and AC are rare manifestations of lithium therapy, with only three reports so far.^{5,7} Non-response to oral steroids, systemic and topical antibiotics, and topical tretinoin, when lithium was still being given, is significant. Our patient finally improved only after lithium was tapered and stopped although controllable recurrences followed.

It is relevant to examine whether, as in other dermatoses, serum level of lithium plays a role in causing HS.^{2,3,8} Gupta, et al reported a case of lithium induced hidradenitis suppurativa whose serum lithium levels were in the therapeutic range of 0.4 – 1 mEq/L.⁵

Our patient developed his cutaneous problems at a serum lithium level of 0.7 mEq/L. He developed HS and AC when the serum lithium level was 0.869 mEq/L. Hence though within the therapeutic range, these concentrations of lithium in the serum triggered an inflammatory cascade, leading to the development of HS and AC

HS was initially thought to involve principally the apocrine glands. However, subsequent histopathological observations have demonstrated minimal to absent apocrine involvement. It has been suggested that follicular obstruction, folliculitis and subsequent cystic dilatation may represent important early changes in HS,^{9,10} which could be brought about by lithium. Apocrine glands do not always open directly onto the skin surface, and may discharge into the superficial portion of the pilosebaceous duct, proximal to the ostium for the sebaceous gland.¹⁴ In such instances, superficial follicular obstruction may cause dilatation of both the apocrine and sebaceous glands, inflammation and subsequent bacterial infection.^{5,9-11}

HS due to lithium could possibly be caused due to neutrophilic chemotaxis¹ and their degranulation inducing the inflammatory cascade (as in psoriasis).¹² Follicular plugging due to direct influence of lithium on the follicular keratinocytes (as in acne) resulting in follicular occlusion adds to the pathology. As pointed out by Gupta, et al⁵ previously and once again brought out by this case, cutaneous side effects of lithium may not correlate with higher than therapeutic serum lithium levels.

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