QUIZ SECTION

Innumerable Yellow Papules Predominantly Involving the Forehead: A Quiz

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A66-year-old Japanese woman presented with numerous asymptomatic yellow papules on her forehead. She had first noticed the lesions in her early 60s and they had gradually increased in number over time, prompting her to seek medical attention for cosmetic reasons. She had no relevant family history, was not taking any medications and had no abnormalities of the nails or teeth suggestive of an inherited appendageal disorder.

Physical examination revealed innumerable small yellowish papules, with a few lesions approaching nodular size, densely distributed bilaterally on the forehead, with a few similar lesions on the nose, while the cheeks, chin, trunk, axillae, groin and extremities were spared (**Fig. 1**A, B). The lesions were soft to elastic, non-tender and slightly mobile, without associated erythema or ulceration. She reported no pruritus or pain. Dermoscopy showed homogeneous yellow, structureless areas without central umbilication or crown vessels. Laboratory investigations, including a lipid profile, were within normal limits. A skin biopsy specimen was obtained from a papule on the forehead for histopathological examination (Fig. 1C, D).

What is your diagnosis?

1: Sebaceous hyperplasia.
2: Eruptive vellus hair cysts.
3: Syringoma / milia-like process.
4: Steatocystoma multiplex.

See next page for answer.

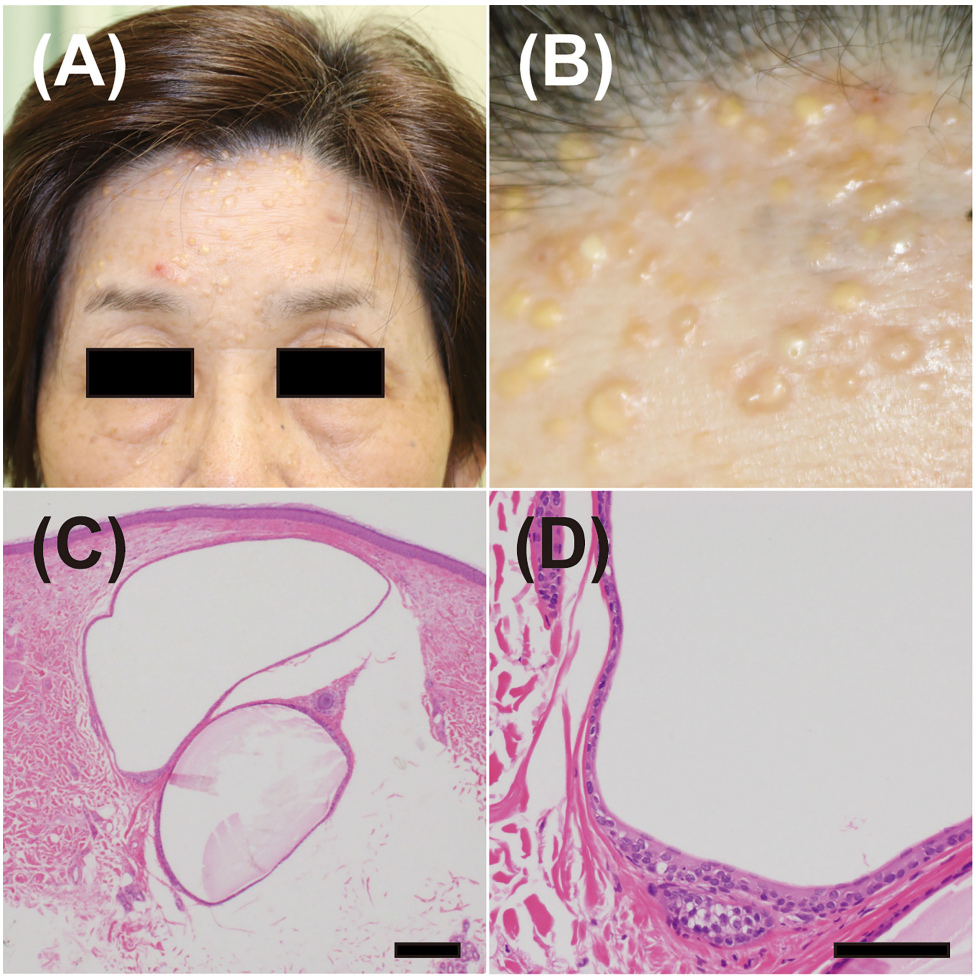

Fig. 1. Clinical and histopathological findings. (A) Clinical image showing innumerable yellow papules distributed predominantly on the forehead. (B) Close-up view of the forehead near the frontal hairline showing densely aggregated small yellowish papules. (C) Low-power histopathological view showing two dermal cysts in the biopsy specimen (haematoxylin and eosin; scale bar = 2 mm). (D) Higher magnification showing the cyst wall and adjacent clear cell clusters (haematoxylin and eosin; scale bar = 400 μm).

ANSWERS TO QUIZ

Innumerable Yellow Papules Predominantly Involving the Forehead: A Commentary

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***Diagnosis*: Steatocystoma multiplex**

The diagnosis is steatocystoma multiplex. Histopathological examination revealed 2 dermal cysts in the biopsy specimen, both lined by a thin stratified squamous epithelium without a granular layer. The cyst walls showed an eosinophilic, corrugated cuticle, and sebaceous lobules composed of clear cells were attached to or closely associated with the cyst walls (Fig. 1C, D). These findings were consistent with steatocystoma multiplex (1).

Steatocystoma multiplex is a benign disorder of the pilosebaceous unit characterized by multiple sebum-containing dermal cysts. It usually develops in adolescence or early adulthood, and the classic distribution involves the trunk, axillae, groin, and proximal extremities (2). Although facial involvement can occur, predominant facial localization is uncommon compared with the classic truncal distribution. Clinically, lesions are typically smooth, skin-colored to yellowish papules or small nodules, and may therefore be difficult to recognize when they arise at unusual sites.

In the present case, lesions were confined to the face and were strikingly concentrated on the forehead, with only minimal involvement of the nose. Moreover, they presented as innumerable small yellow papules rather than as scattered cystic papules or nodules. This pattern created a clinical impression different from the classic form of steatocystoma multiplex and broadened the differential diagnosis substantially. The patient's age further increased the diagnostic difficulty. Steatocystoma multiplex is generally thought of as a disease of younger patients, whereas our patient first noticed the eruption in her early 60s (3). In an older adult with multiple yellow papules on the forehead, clinicians are more likely to first suspect acquired entities such as sebaceous hyperplasia, milia, syringoma or xanthomatous disorders.

Although steatocystoma multiplex is often sporadic, familial cases with autosomal dominant inheritance have been reported and are associated with mutations in *KRT17*. *KRT17* is expressed in the nail bed, hair follicles and sebaceous glands, which may explain the overlap between steatocystoma multiplex and pachyonychia congenita (4). In the present case, there was no relevant family history and no abnormalities of the nails or teeth, making a syndromic inherited form less likely, although genetic testing was not performed.

Dermoscopy provided a limited but useful clue. Our patient showed homogeneous yellow structureless areas without central umbilication or crown vessels. This pattern favoured a cystic lesion over sebaceous hyperplasia, in which a central dell and surrounding crown vessels are more typical (1, 5). However, dermoscopic findings alone are not diagnostic, and histopathological examination remained essential for definitive diagnosis.

The differential diagnosis includes sebaceous hyperplasia, eruptive vellus hair cysts, syringoma, milia and xanthogranulomatous disorders (5–7). Sebaceous hyperplasia is a particularly important clinical mimic in elderly patients because it commonly presents as yellow papules on the forehead; histologically, however, it shows enlarged sebaceous lobules around a dilated duct rather than a true cyst lined by squamous epithelium with attached sebaceous lobules. Eruptive vellus hair cysts can also present as multiple small papules, but they characteristically contain laminated keratin and numerous vellus hairs in the cyst cavity. Syringoma shows eccrine ductal proliferation in a fibrous stroma, and milia are superficial keratin-filled cysts without sebaceous differentiation. Xanthogranulomatous lesions show dermal histiocytic infiltration, often with Touton giant cells, rather than a sebum-containing cyst.

Previously reported facial or forehead-predominant cases are summarized in **Table I**. These reports indicate that a facial variant of steatocystoma multiplex is not unprecedented. Nishimura et al. described a facial papular variant involving the forehead, temple and periauricular region (8). Requena et al. reported a face-confined case, and Ahn et al. later described steatocystoma multiplex localized only in the face (9, 10). Additional reports have included multiple papules on the scalp and forehead, facial disease associated with pilar cyst and bilateral preauricular sinus, late-onset facial disease in an elderly woman, a face-and-scalp-limited case and a recent frontal localized case (Table I). Taken together, the literature supports a recognizable facial/forehead-predominant variant but also suggests heterogeneity in age, associated sites and lesion burden.

What appears most notable in our patient is not merely the site, but the extraordinary lesional burden. While facial cases have been reported, our patient showed an exceptional number of small yellow papules densely aggregated on the forehead, with only slight nasal involvement and no lesions on the trunk, axillae, groin or extremities. This density produced a striking clinical picture and strongly invited alternative diagnoses. In that sense, the present case is educational less because it establishes a new anatomical variant than because it demonstrates how an established but uncommon variant may masquerade as more familiar yellow papular facial disorders.

This case also has practical implications for management. When lesions are few, surgical excision or other localized procedures may be feasible. In contrast, when innumerable papules involve a cosmetically sensitive facial area, destructive or surgical approaches become more difficult, and correct diagnosis becomes especially important before treatment planning. Even when therapy is conservative, diagnostic confirmation can help avoid repeated unnecessary biopsies or concern for xanthomatous, sebaceous

Table I. Previously reported cases of facial or forehead-predominant steatocystoma multiplex.

Age/sex	Distribution	Extra-facial lesions	Approximate burden / morphology	Author, year
32/male	Forehead, temple, periauricular region	No	Multiple yellowish to skin-coloured papules	Nishimura et al. Arch Dermatol. 1986;122:205–207
NR	Face-confined	No	Facial variant; literature review included	Requena et al. Cutis. 1993;51:449–452
NR	Scalp and forehead	Not described	Multiple papules	Hansen et al. Arch Dermatol. 1995;131:835
60/male	Face only	No	Multiple slightly elevated, flat-topped yellowish subcutaneous nodules	Ahn et al. Int J Dermatol. 1997;36:372–373
30/male	Forehead, temple, postauricular area, neck	Yes	Multiple yellowish to skin-coloured firm-to-soft nodules	Sardana et al. J Dermatol. 2002; 29:157–9
78/female	Forehead and cheeks / face only	No	Multiple yellowish nodules, late onset	Riedel et al. J Dtsch Dermatol Ges. 2008; 6:480–482
28/male	Face and scalp	Yes, scalp	Multiple asymptomatic skin-coloured nodules	Sharma et al. dermatopathology (Basel). 2018; 5: 58–63
26/male	Frontal region	Not described	Multiple papuloid nodules localized to frontal region	Sheng et al. J Craniofac Surg. 2025. [Epub ahead of print]

or histiocytic disorders. Treatment reviews describe a range of options, including minimally invasive procedures, laser-based approaches and isotretinoin in selected contexts, but cosmetic burden and lesion number substantially influence feasibility.

In summary, we present a forehead-predominant facial variant of steatocystoma multiplex in a 66-year-old woman with innumerable yellow papules confined to the face. Although facial and frontal localized variants have been reported, the present case is notable for its unusually high lesion burden and the resulting broad clinical differential diagnosis. Awareness that steatocystoma multiplex may present in this manner is important, particularly when evaluating multiple yellow papules on the forehead of an older patient.

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