Childhood Flexural Comedones

A New Entity

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Background: Comedones are usually found in acne and involve the seborrheic areas of the skin. Disseminated comedones can be found in other skin disorders. Flexural comedones are characterized by double orifices connected by a thin layer of epidermis that reveals the comedo content below it. To the best of our knowledge, flexural comedones have not been previously described as an entity. Our objective was to characterize this disorder.

Observations: A cross-sectional descriptive study was performed from April 2004 to July 2006. We included 40 pediatric and adolescent patients with flexural comedones; 21 were female (52%), and 19 were male (48%) (mean age, 6.2 years). In 29 cases the lesions were single (72%) and in 32 cases (80%) unilateral. The lesions were located in the axilla in 88% of the patients. We performed biopsies of skin samples in 6 cases.

Conclusions: To our knowledge, flexural comedones have not been previously described as an entity, and we felt that they deserved attention owing to the relative frequency of cases in our clinical practice. Because of its clinical appearance, flexural localization, and age distribution, we named this disorder childhood flexural comedones. Further investigation and follow-up of a larger number of patients is needed.

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COMEDONES ARE AN ESSENTIAL FEATURE OF ACNE AND CAN PRESENT AS OPEN OR CLOSED. THEY HAVE A TYPICAL DISTRIBUTION INVOLVING THE MOST SEBORRHEIC AREAS OF THE SKIN (Eg, THE FACE, CHEST, AND BACK). THEY ALSO MAY BE THE HALLMARK OF OTHER FORMS OF ACNE, SUCH AS STEROID ACNE AND ACNE VENENATA.1 DISSEMINATED COMEDONES CAN BE FOUND IN SOME SKIN DISORDERS, SUCH AS FAMILIAL DYSKERATOTIC COMEDONES,2 IDIOPATHIC DISSEMINATED COMEDONES,3 AND EXTENSIVE NEVUS COMEDONICUS.4,5 COMEDONES HAVE ALSO BEEN REPORTED SECONDARY TO CHRONIC ACTINIC DAMAGE (FAVRE-RACOUCHOT DISEASE),6 RADIOTHERAPY, TRAUMA, HIDRADENITIS SUPPURATIVA (HS),7,8 AND ON THE SITE OF PREVIOUS HERPES ZOSTER INFECTION.9 FLEXURAL COMEDONES OF INFANCY ARE CHARACTERIZED BY A DOUBLE OPENING CONNECTED BY A THIN LAYER OF EPIDERMIS THAT REVEALS THE COMEDO CONTENT BELOW.

To the best of our knowledge, flexural comedones have not been previously described as an entity. Our objective was to characterize this disorder.

A cross-sectional descriptive study was performed from April 2004 to July 2006. We included pediatric and adolescent patients ranging in age from birth to 16 years. All of them had double-orifice comedones located on flexural areas. The study was performed in Ramos Mejía Hospital, Buenos Aires, Argentina, and in a private dermatology practice.

We observed 40 patients with flexural comedones; 21 were female (52%) and 19 were male (48%); the mean age was 6.2 years (range, 2-15 years). The age at onset of the lesions was unknown in 25 patients (62%). In the remaining 15 (38%), the mean period of time between the patient- or parent-reported onset of the lesions and the diagnosis was 18.1 months (range, 1-84 months). In 29 cases the lesions were single (72%) (Figure 1 and Figure 2), whereas in 11 they were multiple (28%); 8 were bilateral and 3 unilateral (Figure 3). Flexural comedones were unilateral in 32 cases (80%) and bilateral in 8 (20%). Among the 40 patients, the le-
sions were most commonly located in the axilla in 35 (88%), the groin in 3 (8%), the antecubital fossa in 2 (5%), and the neck in 1 (2%). Flexural comedones repre-
sented the main complaint in 9 cases (22%), whereas in
the other cases (26 [78%]), 13 patients or their parents
had concerns regarding molluscum contagiosum; 5 had
concerns regarding atopic dermatitis; 2, inflammatory
acne; 1, comedonal acne and milium cysts; 1, eruptive
milia; 1, morphea; 1, vitiligo; 1, scabies; and 1, keratosis
pilaris. One patient had a personal history of ovarian cysts
associated with an infundibular cyst on the axilla, and 1
had juvenile rheumatoid arthritis. Four cases were fa-
milial (10%).

Findings from skin biopsy samples from 6 patients
showed follicular plugging and infundibular dilatation
(Figure 4).

COMMENT

There was no sex preponderance in our series of cases.
Although flexural comedones were the main concern in
9 patients (22%), in most of the cases they were an in-
cidental finding during dermatologic examination for
other conditions. In 25 cases the patient’s age at onset of
the disease was unknown; it is remarkable that in 1 case
the lesion was congenital. The lesions were single in 72%
of cases and unilateral in 80% of them. Of the 11 pa-
tients presenting multiple lesions, 8 were bilateral and 3
unilateral. The most common site was the axilla (35
[88%]). The other affected sites were much less fre-
cquent. In 1 case we found both axillary and groin le-
sions. Four cases were familial.
Findings from skin biopsy samples from 6 cases showed the typical open comedo picture, with follicular plugging and infundibular dilatation. Remarkable associated features were inflammatory acne in 2 cases, comedonal acne in 1 case, and ovarian cysts with an axillary infundibular cyst in 1 patient.

To our knowledge, flexural comedones have not been previously described as an entity. We felt that they deserved attention owing to the relative frequency of cases in our clinical practice. Because of the typical clinical appearance, flexural localization, and age distribution, we refer to this disorder with the descriptive term *childhood flexural comedones*.

The chronic disease HS is characterized by painful suppurative or inflammatory lesions in the axilla or genitofemoral region. Because comedones are clinically and histopathologically precursor lesions of HS, we hypothesize that childhood flexural comedones are related to HS. In addition, 13 of our patients had associated molluscum contagiosum. The clinical and histopathologic coexistence of molluscum contagiosum and open comedones was reported by Brandrup and Asschenfeldt in 1989, but not in a flexural distribution. Another possibility is that local trauma caused by friction in the affected areas could induce comedone formation. Further investigation and follow-up of a larger number of patients are needed.

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**REFERENCES**