

Persistence of Acne beyond 21 Year of Age in Adolescent Female Patients: A Retrospective Cohort

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Introduction

Acne vulgaris is a highly prevalent condition with significant impact on quality of life. It is estimated to affect about 80% of the population between 11 and 30 years of age.

Although typically a disease of adolescence, acne is a common complaint in adult women, with a prevalence of up to 51% between 20 and 29 years of age [1,2]. Most of these cases begin in adolescence and seems to have no causal relationship with cosmetics, drugs or others occupational factors.

There are no studies that have evaluated the potential of adolescent female patients with acne to persists with the disease into adulthood or identified possible risk factors for this persistence.

This study assessed the persistence of acne in adult women who began treatment into adolescence.

Methodology

We reviewed the records of patients initially viewed between 2002 and 2005 who were diagnosed with acne vulgaris and had 18 years or less in the year of the first consultation and presented 21 years or more in 2010. The patients were re-evaluated between March and April 2010 by a standardized questionnaire. We excluded patients with acne secondary to drugs or topics or who used oral isotretinoin at any time after the initial consultation.

The patients were divided into two groups according to whether or not they persisted with acne at the time of interview. The groups variables was compared bivariately by chi-square, Fisher's exact, Mann-Whitney and Student t tests and subsequently by conditional multiple logistic regression with definition of the covariates of the final model by a backward stepwise algorithm. We considered significant p values less than or equal to 0.05.

Results

We evaluated 47 patients who had a median age of 13±2 years at the disease onset and 23±2 years in 2010. Sixty-eight percent (32) still had acne. There was significant correlation between age at menarche and the onset of acne (Spearman Rho = 0.58, p <0.01), even when we analyzed separately the groups with or without persistence of disease.

Fifty-nine percent of patients with persistent acne reported currently a predominance of inflammatory lesions while only 28% reported more retentional lesions. Forty-four percent stated a higher involvement in the lower half of the face, while 28% reported predilection for the upper half. There was a significant association between the topography and the clinical type of the lesions, with bottom-inflammatory and upper-retentional patterns observed (p = 0.03 - Fisher exact test).

The acne patients were less often current users of hormonal contraceptives (ACH) (Table 1). In multivariate analysis we also identified an earlier menarche and a lower current body mass index (BMI) (Table 2). The other features were similar between groups.

Discussion

The data suggest that is frequent the persistence of acne started in adolescence beyond the 21-year-old in females. The strong correlation between the age of menarche and the onset of the disease suggests that the studied patients had acne vulgaris in the initial follow-up.

Some previous studies identified morphological and topographical patterns of acne lesions associated with different age groups. Therefore, as expected, there was a predominance of inflammatory lesions and mainly distributed on the lower half of the face in our patients with acne persistence.

The initial feature that was associated with the persistence of acne was the earliest menarche. Some studies found an association between early menarche or pubarche and greater future risk of ovarian dysfunction and severe comedonal acne, as well as higher serum androgens [3]. Furthermore, it was identified an association between the SHBG gene polymorphism, which is associated with the risk for PCOS and hyperandrogenism, and variation of the age at menarche.

One curious finding was the observation of lower values of BMI in patients with persistent acne. In fact we found no previous study similar to ours that directly assess this relationship in multivariate models. Regardless, our findings do not support an association between persistent acne and obesity in the population studied.

About the environmental variables studied, there was a significant association between persistent acne and less frequent use of ACH. Due to the limited sample size, it was not possible to perform a separate analysis of the different formulations used and their impact on the risk of acne, however 94% of the interviewed were using combined ACH. On the other hand, is already known the effect of these medications on the control of acne in adult women, so, our data can strengthen these concepts [4,5].

Similar to some previous studies, our data did not identify significant association between persistence of acne and menstrual irregularity, smoking, family history of acne in adult women, regular use of cosmetic or sunscreen, clinical grade at the beginning of the treatment or age at onset of acne vulgaris.

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Variables	All	Acne persistence (N=32)	Without acne (N=15)	Odds Ratio (95% Confidence interval)	p
Age at treatment onset (Median)	16±2	16±2	16±3	-	0,18
Current age (Median)	23±2	23±3	22±2	-	0,40
Age at acne onset (Median)	13±2	12±2	14±2	-	0,46
Age of menarche (Median)	12±2	12±2	12±1	-	0,17
Body Mass Index (Median)	21±3	21±3	22±3	-	0,64
Family history of acne in women %(n)	30%(14)	34%(11)	20%(3)	2,10 (0,49 a 9,03)	0,50
Clinical grade at treatment onset %(n)	-	-	-	-	0,46
Regular use of cosmetics %(n)	45%(21)	38%(12)	60%(9)	0,40 (0,11 a 1,41)	0,15
Regular use of sunscreen %(n)	53%(25)	53%(17)	53%(8)	0,99 (0,29 a 3,39)	0,99
Current smoking %(n)	17%(8)	16%(5)	20%(3)	0,74 (0,15 a 3,61)	0,70
Irregular menses %(n)	13%(6)	16%(5)	7%(1)	2,69 (0,29 a 25,37)	0,65
Hormonal contraceptives use %(n)	72%(34)	63%(20)	93%(14)	0,11 (0,01 a 1,02)	0,04

*Used Mann-Whitney or Fisher exact tests

Table 1: Bivariate analysis of studied features of patients with or without acne persistence.*

Variables	OR	IC 95%		p
Current age	1,65	0,78	3,49	0,19
Age at acne onset	1,64	0,89	3,00	0,11
Age at menarche	0,33	0,13	0,84	0,02
Body mass index	0,60	0,38	0,95	0,03
Regular use of cosmetics	0,20	0,03	1,17	0,08
Current smoking	6,36	0,36	111,65	0,21
Hormonal contraceptives	0,05	0,00	0,77	0,03
Constant	-	-	-	0,33

*Final model defined by a stepwise backward algorithm; dependent variable: acne persistence; p(model) < 0,01; correct classification = 81%

Table 2: Multivariate analysis of studied features of patients by logistic regression.*

The results are limited by the small sample size, a consequence of the difficulty of contacting patients without current follow up in the institution, as well as the impossibility to include patients who used oral isotretinoin, since this medication is the only one considered capable to abort the disease.

Conclusion

Most female patients who began treatment for acne in adolescence and were not treated with systemic isotretinoin still have active disease after 21 years of age. The persistence of the disease may be associated with earlier menarche, whereas the current use of HC is associated with lower rates of acne in this adult population. Furthermore, we have not verified greater risk of persistent disease among regular users of make-up cosmetics or sunscreen.

References

1. Poli F, Dreno B, Verschoore M (2001) An epidemiological study of acne in female adults: results of a survey conducted in France. J Eur Acad Dermatol Venereol 15: 541-545.
2. Collier CN, Harper JC, Cafardi JA, Cantrell WC, Wang W, et al. (2008) The prevalence of acne in adults 20 years and older. J Am Acad Dermatol 58: 56-59.
3. Lazar L, Kauli R, Bruchis C, Nordenberg J, Galatzer A, et al. (1995) Early polycystic ovary-like syndrome in girls with central precocious puberty and exaggerated adrenal response. Eur J Endocrinol 133: 403-406.
4. Huber JC, Bentz EK, Ott J, Tempfer CB (2008) Non-contraceptive benefits of oral contraceptives. Expert Opin Pharmacother 9: 2317-2325.
5. Jemec GB, Linneberg A, Nielsen NH, Frølund L, Madsen F, et al. (2002) Have oral contraceptives reduced the prevalence of acne? a population-based study of acne vulgaris, tobacco smoking and oral contraceptives. Dermatology 204: 179-184.