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Editorial

The age-old problem of acne[☆]N.F. Mahmood^{a,b}, A.R. Shipman^{a,*}

Department of Dermatology, Warwick Hospital, Lakin Road, Warwick, United Kingdom
 Department of Dermatology and Photobiology, Ninewells Hospital, Dundee, Scotland

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ABSTRACT

Acne vulgaris is one of the top three most commonly encountered dermatological problems worldwide in both primary and secondary care. Acne diagnosis and treatment date back to ancient Greek and Egyptian times. This article explores acne through the ages and discusses past theories on etiology and treatment with particular focus on the discovery of retinoids and their impact on women's health.

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Introduction

Acne vulgaris is a disorder of the pilosebaceous unit that is characterized by comedones, papules, cysts, nodules, and scarring. It is one of the top three most commonly encountered dermatological problems in both primary and secondary care (Rea et al., 1976). While the condition is not life threatening, it can cause significant psychological morbidity and lead to lifelong scarring and some cases of facial disfigurement if left untreated. Acne vulgaris typically starts around the age of 12 to 14 years but tends to manifest earlier in female patients. Patients' peak age for severity is 16 to 17 years in female and 17 to 19 years in male patients.

There is much debate over the gender distribution of acne vulgaris. Simpson (1991) states that 95% of boys and 83% of girls are affected during their adolescent and young adult life. Hunter et al. (2002) concluded that acne has no gender predilection and affects both sexes equally.

This article examines acne through the ages and discusses the myths and theories that surround its etiology as well as developments in acne treatments with a focus on isotretinoin and its impact on women's health (Fig. 1).

Acne through the ages

Greek physicians Aristotle and Hippocrates used the Greek words *ionthoi* and *varus* to describe acne as a condition that is strongly associated with puberty (Grant, 1951). In fact, the singular form of *ionthoi* translates to the onset of beard growth. In the Ebers Papyrus (Fig. 2), ancient Egyptians used the term *aku-t*, which means boils, blains, sore, pustules, or any inflamed swelling (Grant, 1951). Given its phonetic resemblance to the term we use today, this likely represents the root word of acne. The term *acne vulgaris* (*vulgaris* means common) was first used by Fuchs in 1840 and has persisted to the present day (Grant, 1951).

Skin disease was historically seen as a manifestation of internal problems and thought to represent the need to balance the four humors defined in ancient Greek medicine. Humors existed as liquids within the body and were identified as blood, phlegm, black bile, and yellow bile. Pores in the skin were regarded as orifices through which humors could pass. In the 16th Century, Sir Thomas Elyot (Fig. 3) in his "Castell of Health" described a condition due to an abundance of melancholy blood. Elyot may have seen acne as part of a wider endocrinological syndrome because he describes obesity of the upper body that is associated with boils, increased urine, and black pouches (Grant, 1951). In 1638, Riolanus associated acne with menstruation-related disorders (Grant, 1951). Ten years later, Johnston linked acne with a pattern of heterosexual behavior. His words, translated by Culpepper, state "vari are little hard tumours on the skin of the face curdled up of a hard thick juice. They are known easily. They are of the bigness of hemp seed, and they infect young people that are

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* Corresponding author.

E-mail address: alexa.shipman@doctors.net.uk (A.R. Shipman).

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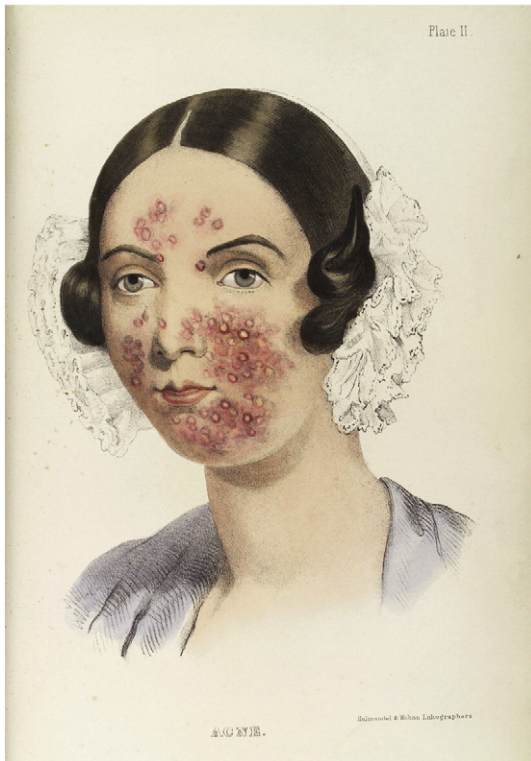


Fig. 1. Woman with acne on her face Source: Burgess TH. Eruptions of the face, head, and hands: with the latest improvements in the treatment of diseases of the skin [Internet]. 1849 [cited 2015 October 6]. Available from: https://commons.wikimedia.org/wiki/File:Illustration_of_a_woman_with_acne_on_her_face_Wellcome_L0037455.jpg

inclined to venery and fruitful, but chaste withal and continent" (Grant, 1951; Fig. 4).

It was not until the invention of microscopes that skin glands were identified and allowed for advancements in dermatology. Italian researcher Marcello Malpighi discussed pores as the opening of glands in the skin in his book *Opera Postuma* (Zouboulis et al., 2014). Hermann Boerhaave, a Dutch Professor of Medicine and Botany, also supported this view (Zouboulis et al., 2014). The term *sebaceous gland* was coined by Giovanni Battista Morgagni (Fig. 5) who described them in his book *De Sedibus et cause morborum per anatomen indagatis* (Zouboulis et al., 2014).

German physician Karl Gustav Theodor Simon was a hobbyist microscopist based in Berlin who, in 1842, saw a living, moving creature when examining tissue that was affected with acne. He remarked that "postulation became certainty when I pressed the object under observation very gently between two glass plates and saw very clearly that it moved" (Plewig and Kligman, 2012). This was the first described observation of the *Demodex* mite. As the Chief of Dermatology at the Charite Hospital in Berlin, Dr. Simon published his observations in 1848 in his work *Die Hautkrankheiten durch Anatomische Untersuchungen Erlautert* (Skin conditions explained through anatomical investigation; Plewig and Kligman, 2012).

English dermatologist Samuel Plumbe published *A practical treatise on the diseases of the skin* in 1837 (Fig. 6). He described blockage of the sebaceous glands as follows: "it has been constantly observed, that persons of sanguine temperament and florid complexion have been most subject to follicular inflammation; and among these, that young men between the ages of 20 and 25 have been the greatest sufferers from it. Females, at the same age, are also subjects in whom its visitations are not infrequently manifested, but, in the latter, it rarely proceeds with such rapidity to suppuration, or produces such unpleasant appearances as to extent" (Plumbe, 1937).



Fig. 2. Excerpt from the Ebers Papyrus wherein one passage mentions a prescription dating from the first dynasty (circa 3400 BC). The papyrus was discovered at Thebes in 1862. Source: Wellcome collection [Internet]. 2015 [cited 2015 October 6]. Available from: https://commons.wikimedia.org/wiki/File:A_page_from_the_Ebers_Papyrus_written_circa_1500_B.C._Wellcome_M0008455.jpg?uselang=en-gb



Fig. 3. Portrait of Sir Thomas Elyot (1532-1533) by Hans Holbein the Younger Source: Royal Collection at Windsor Castle [Internet]. 2015 [cited 2015 October 6]. Available from: https://commons.wikimedia.org/wiki/File:Holbein_Sir_Thomas_Elyot.jpg?uselang=en-gb

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