Acne and Psychodermatology

21

Janet Angus

Introduction

Acne is estimated to affect 9.4% of the global population, making it the eighth most prevalent disease worldwide (Tan and Bhate 2015). It results in significant psychological problems, such as anxiety, depression, stigmatisation from peers, lower self-esteem, relationship difficulties, and higher unemployment rates (Koo 1995; Mulder et al. 2001). Severe psychological consequences such as depression, eating disorder, and body dysmorphic disorder are common among people with acne (Law et al. 2006).

The psychological distress can often significantly outweigh the physical impact of the disease. Acne is both very visible and inflammatory lesions leave the possibility of permanent scarring and consequent disfigurement (Fig. 21.1).

The psychological impact of acne can affect any age group and does not necessarily correlate with the disease severity (Yang et al. 2014). Patients should be routinely asked about the psychological impact of their disease to optimise treatments and outcomes.

It is important to make an assessment of the psychological impact of all patients with acne.

The severity of acne does not correlate with severity of psychological impact.

J. Angus (✉)
Bristol Royal Infirmary, Bristol, UK
e-mail: janet.angus@UHBw.nhs.uk

A. Bewley et al. (eds.), *Psychodermatology in Clinical Practice*,
https://doi.org/10.1007/978-3-030-54307-5_21

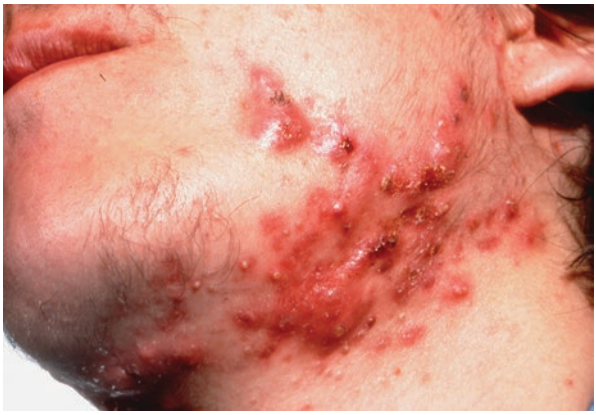

Fig. 21.1 Nodulo-cystic acne can lead to significant scarring and disfigurement

Failure to address the psychological issues will result in poor outcome to treatment.

Prevalence of Psychological Impact Associated with Acne

Between 30 and 50% of adolescents with acne will experience psychological difficulties associated with their disease. This can vary from mild distress to extremely significant psychological impact with a risk of suicide (Goulden et al. 1999). Psychological abnormalities include self-reported depression and anxiety, embarrassment, social isolation, and psychosomatic symptoms including pain and discomfort.

Depression and anxiety has been found in 18% and 44% of acne patients, respectively (Kellett and Gawkrodger 1999). Six percent of acne patients in one study reported active suicidal ideation (Gupta and Gupta 1998). Patients with acne had greater impairment in mental health scores compared with those with asthma, epilepsy, diabetes, back pain, arthritis, or coronary artery disease. Suffering from acne is also associated with significantly higher levels of unemployment (Mallon et al. 1999).

Acne also occurs into adulthood with clinically significant acne in up to 12% of adult women and 3% of men. This persistent acne and consequent psychological impact often continues to middle age (Tanghetti et al. 2014). Older females with unremitting acne even if not severe, appear to be most negatively affected. Studies have shown a lack of self-confidence and poorer quality of life with depression and anxiety being common (Tan 2004; Stein and Hollander 1992).

The psychological impact of acne can frequently continue into adulthood.

Older women with persistent acne are severally affected.

Patients should be screened for suicide risk.

Pathogenesis of Psychological and Psychiatric Disorders in Acne

Acne commonly develops during adolescence, a vulnerable time of significant hormonal changes, development, and emotional instability.

There is increasing pressure on both young and old to conform to ideals of appearance and meet the socially perceived image of attractiveness and body image. Focus on self-image is exponentially increasing, in a digital world dominated by social media where photographs are shared and appraised continually.

Studies have found that teenagers and young adults make judgements about people's personality characteristic based on their skin. This judgement is a major contributor to the way adolescents deal with their acne and the psychological impact it has on them. In a study, adults and teenagers who viewed digitally altered photographs of teenagers with or without acne perceived the teenagers with acne as being shy, nerdy, stressed, lonely, boring, unkempt, unhealthy, introverted and rebellious, while adolescents with clear skin were perceived as being intelligent, happy, trustworthy, healthy, and creative (Ritvo et al. 2011).

Their relationships with their family and parents may also be affected, as parents worry about the impact acne will have on their child, and they may also lack education and knowledge about the causes and treatment, which may delay or prevent the teenager from seeking medical intervention (Dunn et al. 2011).

Acne and psychological distress can create a vicious cycle (see Fig. 21.2). Acne may cause psychosocial impact, which may result in a psychological disease such as anxiety and depression. This may result in less ability to cope with the disease and loss in faith in treatments or compliance with treatments. This worsens the skin condition.

Coping Skills that Become the Problem

Behaviours that are used to cope with stresses are sometimes referred to as safety behaviours. These are coping behaviours used to reduce anxiety and fear when threatened. These safety behaviours, although useful for reducing anxiety in the short term, sometimes become maladaptive and over the long term prolong anxiety and fear of non-threatening situations.

The common strategies used for coping with the impact of acne often can become the clinical presentations of psychological distress of acne and can become problem

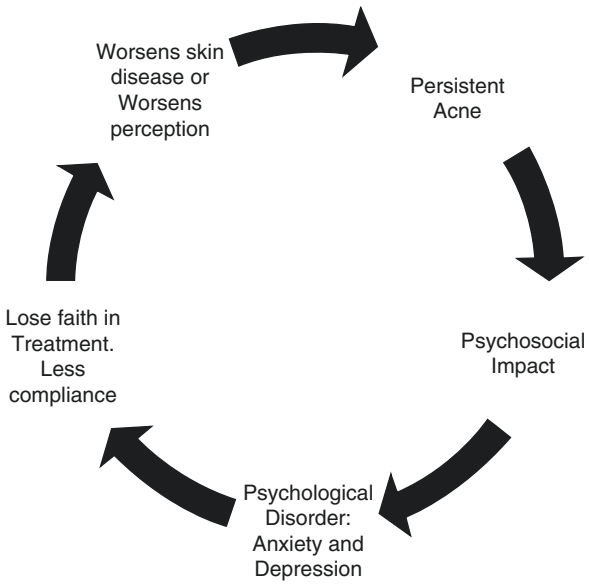

Fig. 21.2 Vicious cycle of acne and psychological impact

Table 21.1 Common safety behaviours in acne

Common safety behaviours	Behaviour	Initial benefit	Long-term issues
Avoidance	Failing to go to work or social events Avoiding relationships	Reduces anxiety	Lack of Social interaction Problems at Work Failure to form Relationships
Concealment	Excessive use of make-up	Alleviates fear of judgement	Makes acne worse Spending excessive time getting ready to leave house
Seeking reassurance	Asking partners or family about appearance	Provides reassurance	Causes relationship difficulties between family members Increases separation and isolation
Excessive checking	Repeatedly looking in reflective surfaces	Relieves anxiety	Increases preoccupation with skin

behaviours themselves (see Table 21.1). These would commonly be concealing the condition, avoidance of social interactions and failure to form relationships.

Clinical Presentations of Psychological Impact

Common psychological issues associated with acne may present with the features outlined in Table 21.2. Assessment should be made specifically of these areas in all acne patients. Behaviours are defined as problematic when they interfere with

Table 21.2 Common clinical presentations of psychological impact

Clinical presentations of psychological impact
Poor self-esteem and lack of confidence
A mismatch of severity of disease and impact
Social withdrawal
Excoriation disorder

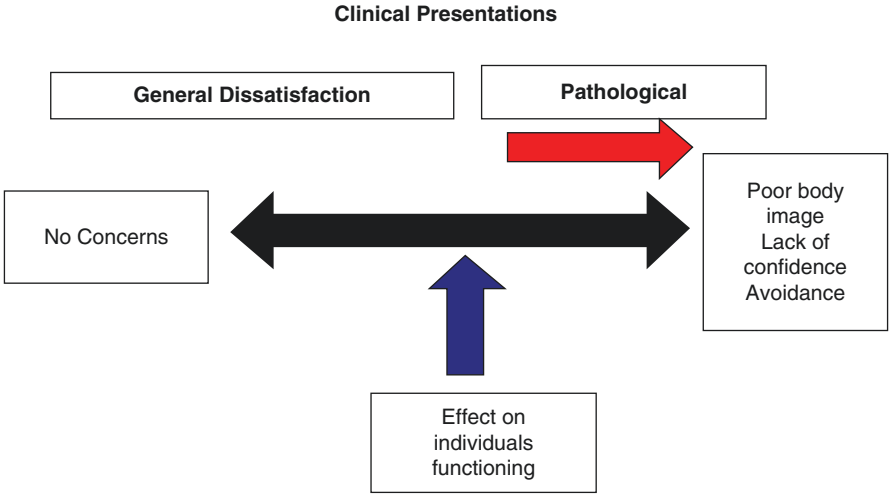

Fig. 21.3 Spectrum of severity in clinical presentations of psychological impact of acne

function. Behaviours and psychological issues lie on a spectrum of severity—see Fig. 21.3.

Poor Self-Esteem and Lack of Confidence

There is often poor-esteem and concerns with appearance. Signs of this are often about efforts to conceal disease. These might be for example:

- Growing their hair long
- Heavy use of makeup
- Refusal to remove make-up during consultations

A Mismatch of Severity of Disease and Impact

A common indicator of psychological difficulties is lack of a realistic appraisal of disease or type of treatment indicated. The severity of acne does not match with the

concern from the patients or the patient is visibly distressed. There may also be doubt about treatment success or insistence on the escalation of therapy, e.g. requesting isotretinoin in mild disease. Other features to note include:

- Tearful during consultations
- Significant parental concern
- Significant concern about scarring
- Seeking cosmetic or laser treatments

Social Withdrawal

At a time when teenagers are learning to form relationships, those with acne may lack the self-confidence to go out and make these bonds. They become shy and even reclusive. The main concern is a fear of negative appraisal by others. In extreme cases, social phobia can develop. These may present as:

- Retreating to their bedroom
- Avoidance of peers
- Avoidance of eye contact
- Failure to attend school or work or participate in sport
- Failure to form sexual relationships

Failure to Attend or Progress in Education and Work

- Missing school or sudden poorer academic performance
- Increasing sick days from work
- More likely to be unemployed
- Acne patients are less successful in job interviews due to lack of self-confidence

Excoriation Disorder

Excoriation disorder (ED), compulsive skin picking, dermatillomania or acne excoriee (Fig. 21.4) when seen in patients with acne has been categorised in the *Diagnostic and Statistical Manual of Mental Disorders*, 5th Edition (DSM-5) as an impulse control disorder. It is grouped with obsessive-compulsive and related disorders. It is an important sign to recognise and address as it is often an indicator of psychological distress (Lochner et al. 2012). Table 21.3 outlines the diagnostic criteria for Excoriation Disorder.

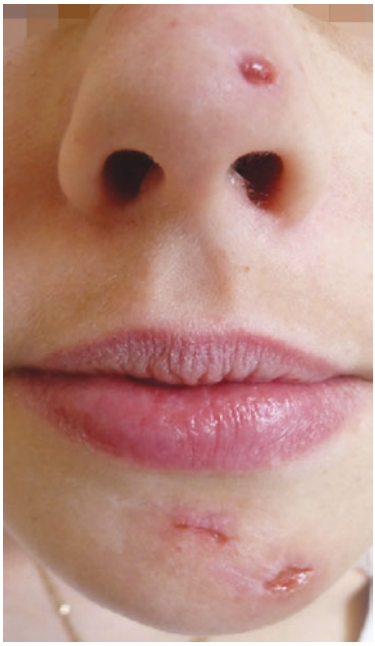

Fig. 21.4 Acne excoriee. Note picked areas on the face

Table 21.3 Diagnostic criteria for excoriation disorder

Diagnostic criteria include:
• Recurrent skin picking that results in skin lesions
• Repeated attempts to stop the behaviour
• The symptoms cause clinically significant distress or impairment
• The symptoms are not caused by a substance misuse or medical, or dermatological condition
• The symptoms are not better explained by another psychiatric disorder

ED is characterised by an inability to stop picking despite repeated efforts to do so and may lead to shame, anxiety, and depression (Odlaug and Grant 2011). It may occur at any age, but it generally has its onset in adolescence, typically coinciding with the onset of puberty (Flessner and Woods 2006). The picking may be preceded by a feeling of tension or anxiety that is relieved by the picking. There is an initial feeling of gratification and pleasure but this is rapidly followed by guilt. A range of behaviours or rituals may accompany the skin picking.

Individuals with ED often spend a significant amount of time on picking "binges" and camouflage. This can add up to several hours per day focusing on their skin and leads to them missing or being late for work, school, or social activities (Grant et al. 2012).

ED provokes shame and guilt both about the activity and their inability to control an obviously self-destructive behaviour.

Avoidance of situations or activities where skin lesions might be detected is common (Stein and Lochner 2017). Possible medical sequelae include

Table 21.4 Difference between excoriation disorder and dermatitis artefacta

Clinical presentations	Excoriation disorder	Dermatitis artefacta
Admits to picking	If gently asked easily admit to rubbing or picking	Deliberately conceals information from clinicians
Underlying psychiatric disease	Anxiety and depression	Often borderline personality disorder
Motivation	Associated shame and guilt about behaviour	May be seeking care/patient may not understand motivation

infections, lesions, scarring, and even serious physical disfigurement (Odlaug and Grant 2008). Individuals with ED may not commonly seek treatment for their condition; it is estimated that less than a fifth of patients seek treatment (Grant et al. 2012). Reasons for this are that the condition is accompanied by embarrassment, shame, or hopelessness. Those who do seek treatment more often present to a general practitioner or to a dermatologist rather than to psychological or psychiatric services.

Sometimes there is confusion with ED and Dermatitis artefacta (DA) and DA is diagnosed in error in cases of ED. Dermatitis artefacta (DA) is a factitious dermatological disorder in which skin lesions are self-induced to satisfy an unconscious psychological or emotional need. With DA there is a desire to manipulate and conceal the self-inflicted cause of the problem from health professionals. There is an association with more significant underlying psychiatric pathology. If asked sensitively, ED patients are usually happy to discuss their picking and there is not an association with complicated underlying psychiatric disorders. Table 21.4 outlines the differences between Excoriation Disorder and Dermatitis Artefacta.

Practice Points

Do not confuse the diagnosis of excoriation disorder and dermatitis artefacta. Excoriation disorder is a coping strategy for stress and anxiety.

Dermatitis artefacta (DA) is a factitious dermatological disorder in which skin lesions are self-induced to satisfy an unconscious psychological or emotional need.

With DA there is a desire to manipulate and conceal from health professionals and association with more significant underlying psychiatric pathology.

Assessment Tools

Psychological tools are very useful for the assessment of the psychological impact of the disease. They provide a structured assessment and are a helpful, non-judgemental way of quantifying anxiety and depression, monitoring disease and assessing suicide risk.

They are also useful in non-communicative teenagers. Moreover, these tools are easy to access and implement. They take around 5 min to complete.

Examples of such tools are as follows:

1. Hospital Anxiety and Depression scale (Zigmond and Snaith 1983). Developed in 1983, this is a 14-item scale in which seven items relate to anxiety and seven relate to depression.
2. The Patient Health Questionnaire (PHQ-9) (Kroenke et al. 2001) is a self-administered version of the PRIME-MD diagnostic instrument for common mental disorders. The PHQ-2 (Kroenke et al. 2003) is an abbreviated version that enquires about the frequency of depressed mood and anhedonia over the past 2 weeks.

   The PHQ-2 includes the first two items of the PHQ-9. The purpose of the PHQ-2 is to screen for depression in a "first-step" approach. Patients who screen positive should be further evaluated with the PHQ-9 to determine whether they meet criteria for a depressive disorder.
3. The Generalised Anxiety Disorder Assessment (GAD-7) (Spitzer et al. 2006) is a seven-item instrument that is used to measure or assess the severity of generalised anxiety disorder (GAD). Each item asks the individual to rate the severity of his or her symptoms over the past 2 weeks.
4. Cardiff Acne Disability Index (Motley and Finlay 1992). This five-item questionnaire is a shortened form of the Acne Disability Index (ADI), designed for use in teenagers and young adults.
5. The Acne-specific Quality of Life questionnaire (Acne-QoL) (Martin et al. 2001) is a 12-item health-related quality of life instrument developed for use in clinical trials to assess the impact of therapy on quality of life among persons 13–35 years of age with facial acne.

Identifying Psychiatric Conditions

Symptoms of Social Anxiety Disorder

Fear or anxiety specific to social settings.

Fear that they will display their anxiety and experience social rejection.

Social interaction will consistently provoke distress.

Social interactions are either avoided or reluctantly endured.

Fear and anxiety will be markedly disproportionate to the actual situation.

Persist for 6 months or longer and cause personal distress and impairment of functioning in one or more domains, such as interpersonal or occupational functioning.

Fear or anxiety cannot be attributed to a medical disorder, substance use, or adverse medication effects or other mental disorder.

Studies have found 15% of acne patients had clinically significant anxiety, and 6% had depression. Social anxiety appears particularly common. Identifying patients who fulfil diagnostic criteria for anxiety and depression is important, as early input from psychology and psychiatric colleagues may be crucial in successful management (Picardi et al. 2000).

Depression

The DSM-5 outlines the following criteria to make a diagnosis of depression:

The individual must be experiencing five or more symptoms during the same 2-week period and at least one of the symptoms should be either (1) depressed mood or (2) loss of interest or pleasure

Depressed mood most of the day, nearly every day.

Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.

Significant weight loss when not dieting or weight gain, or decrease or increase in appetite nearly every day.

A slowing down of thought and a reduction of physical movement (observable by others, not merely subjective feelings of restlessness or being slowed down).

Fatigue or loss of energy nearly every day.

Feelings of worthlessness or excessive or inappropriate guilt nearly every day.

Diminished ability to think or concentrate, or indecisiveness, nearly every day.

Recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

To receive a diagnosis of depression, these symptoms must cause the individual clinically significant distress or impairment in social, occupational, or other important areas of functioning. The symptoms must also not be a result of substance abuse or another medical condition.

Body Dysmorphic Disorder

Individuals with Body Dysmorphic Disorder (BDD), also known as dysmorphophobia, are preoccupied with an imagined or slight defect in appearance; if a slight physical anomaly is present, the appearance concerns are excessive. To differentiate BDD from normal appearance concerns, the preoccupation must cause clinically significant distress or impairment in functioning, e.g. social or occupational interference.

BDD is classified as a somatoform disorder by the official psychiatric classification system, the Diagnostic and Statistical Manual of Mental Disorders (DSM). Dissatisfaction with treatment outcomes and professional interactions is common in patients suffering from BDD. Studies have found BDD is common in acne patients. The three most frequent compulsive behaviours in patients who screened positive for BDD were mirror checking (90.7%), camouflaging (79.1%) and using make-up (72.1%) (Marron et al. 2020) (Table 21.5).

Treating Underlying Psychological and Psychiatric Disease

The underlying principle is to treat both the acne and psychological or psychiatric consequence in conjunction. Psychological and psychiatric disease should be assessed and referred to psychology and psychiatric services if appropriate. Psychological, psychiatric and medical intervention (Fig. 21.5) can occur in conjunction and it is probably optimal if they can occur in parallel.

Appropriate treatment of the acne has been shown to improve the psychological impact. Longitudinal evaluation of psychometric outcomes has demonstrated that effective treatment of acne was accompanied by improvement in self-esteem, shame, embarrassment, body image, social assertiveness, and self-confidence. The majority of these patients were treated with oral isotretinoin (71%) (Klassen et al. 2000; Lasek and Chren 1998; Myhill et al. 1988).

Table 21.5 Screening tool for BDD (Phillips 2003)

Answering yes to all questions is a likely diagnosis of BDD
Do you currently think about a feature of your appearance you dislike?
If yes how many hours do you think about it?
Do you check in mirrors or reflective surfaces or touch your features a lot?
Do you compare your features often?
Does it cause you a lot of distress?
Do you avoid situations or people because of it?
Does it interfere with work, social life or relationships?

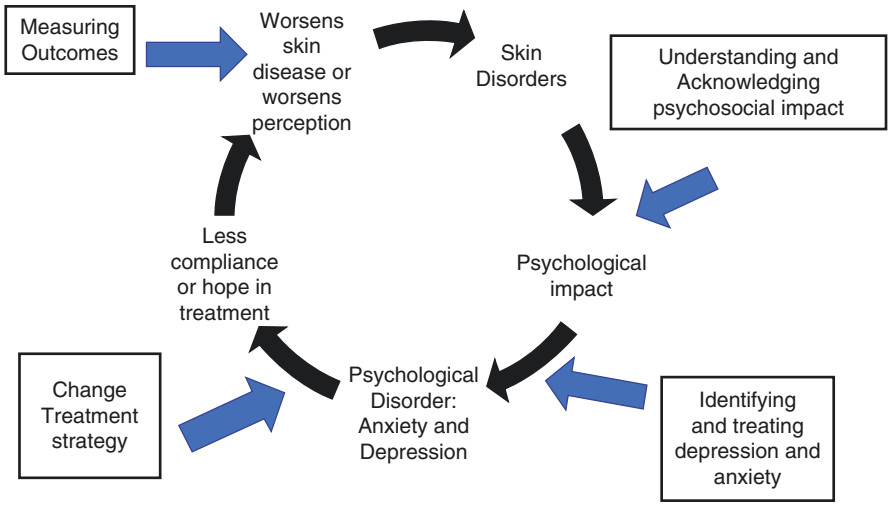

Fig. 21.5 Breaking the Cycle

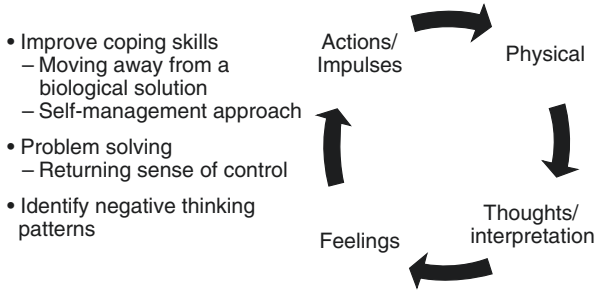

Fig. 21.6 CBT model

Psychological Interventions

Cognitive Behaviour Therapy (CBT)

CBT is a psychological intervention that focuses on how a person's thoughts, beliefs, feelings and behaviours affect their situation, see Fig. 21.6. CBT aims to identify unhelpful thinking patterns and behaviours that lead to psychological problems. Behavioural experiments allow an opportunity for people to test their belief systems in small graded individually designed challenges.

Habit Reversal Techniques for Excoriation Disorder

Habit Reversal is a simple form of intervention that involves several components, including:

- Building awareness of how much they are picking or unwanted behaviour
- Identifying and understanding the situations, places, activities, and urges that typically precipitate the behaviour
- Reducing cues that lead to the behaviour
- Developing a competing response that the person can use instead of the behaviour

Prescribing Antidepressants

It may be appropriate to prescribe antidepressants for anxiety and depression. Medications are often used in conjunction with cognitive behaviour therapy. The drugs of choice are the selective serotonin reuptake inhibitors (SSRIs) such as fluoxetine, paroxetine, sertraline and fluvoxamine. Some of these medications can also be helpful in compulsive skin picking, reducing impulse control disorders and BDD. Acetylcysteine has also been reported to be effective in ED.

Prescribing Isotretinoin

Management of patients with current or previous depression who require isotretinoin treatment for acne is a challenging area. A study published in 1983 asserted that oral isotretinoin could cause depressive symptoms (Hazen et al. 1983), and since then multiple publications have fuelled controversy on this subject. Current opinion favours the view that isotretinoin-induced mood disturbance is a rare, idiosyncratic reaction, not reliably related to the presence of pre-existing depression (Azoulay et al. 2008a; Bremner et al. 2012).

Most studies have not found an association between oral isotretinoin and depression, but rather have found a beneficial effect of reduced depressive symptoms with the treatment (Kaymak et al. 2006; Strahan and Raimer 2006; Marqueling and Zane 2007; Hahm et al. 2009; Gnanaraj et al. 2015; Singer et al. 2019; Li et al. 2019; Huang and Cheng 2017). Despite this, there may be reluctance to prescribe the drug especially in the context of the presence of psychological difficulties. However, delays in adequate treatment of acne may actually result in more risk of psychological harm.

Suicide and Isotretinoin

The critical question of whether or not the use of isotretinoin increases the risk of depression and suicidal ideation in individuals with acne, over and above the risk due to acne itself, has not been resolved. Various observational studies have yielded conflicting results (Wysowski et al. 2001; Bremner et al. 2012; Jick et al. 2000; Friedman et al. 2006; Azoulay et al. 2008b).

A study concluded that there was an increased risk of suicide attempts up to 6 months after the end of treatment with isotretinoin, but patients with a history of suicide attempts before treatment made fewer new attempts of suicide (Sundström

et al. 2010). This emphasised that patients with severe acne with a history of attempted suicide should not automatically be refused isotretinoin treatment. The authors also state that suicide risk was already rising prior to treatment and that the additional risk cannot, therefore, be attributed to isotretinoin use.

Subsequent studies (Singer et al. 2019) have demonstrated a lower risk of suicide attempt compared to the normal general population. There will, however, be a small subset of patients who have increased depression and suicidal thoughts while on isotretinoin. With this in mind, it is probably prudent to recommend closer monitoring of all patients with acne, who are identified as at high risk of depression.

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