In conclusion, this study showed high rates of self-reported improvement in patients' QoL after a mean interval of 10 years following ETS for palmar hyperhidrosis.

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Pharmacological treatments in pregnant women with psoriasis in the U.S.A.

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Dear Editor, Psoriasis commonly occurs in adults of childbearing age.[1] Most pregnant women experience improvement

Table 1 Top 10 psoriasis drugs (and pregnancy category X drugs) used by pregnant women (n = 386)

Rank (based on total)	Top 10 drugs and category X drugs	FDA pregnancy category	Average prescription number, mean ± SD	Total, n (%)	Trimester 1, n (%)	Trimester 2, n (%)	Trimester 3, n (%)	P-value
1	Triamcinolone acetonide	C	1·8 ± 1·5	41 (10·6)	32 (8·3)	25 (6·5)	26 (6·7)	0·57
2	Clobetasol	C	1·9 ± 1·2	36 (9·3)	33 (8·5)	21 (5·4)	20 (5·2)	0·10
3	Betamethasone dipropionate	C	1·4 ± 0·8	27 (7·0)	22 (5·7)	16 (4·1)	15 (3·9)	0·43
4	Calcipotriene	C	2·4 ± 4·1	26 (6·7)	24 (6·2)	14 (3·6)	14 (3·6)	0·13
5	Fluocinonide	C	1·5 ± 1·0	13 (3·4)	11 (2·8)	6 (1·6)	6 (1·6)	0·33
6	Hydrocortisone	C	1·3 ± 0·7	10 (2·6)	9 (2·3)	9 (2·3)	8 (2·1)	0·96
7	Pimecrolimus	C	1·6 ± 1·1	8 (2·1)	8 (2·1)	6 (1·6)	5 (1·3)	0·69
8	Fluocinolone	C	1·4 ± 0·5	7 (1·8)	6 (1·6)	3 (0·8)	4 (1·0)	0·58
9	Mometasone	C	1·3 ± 0·5	6 (1·6)	6 (1·6)	4 (1·0)	2 (0·5)	0·36
10	Desonide	C	1·4 ± 0·9	5 (1·3)	5 (1·3)	2 (0·5)	2 (0·5)	0·37
–	Methotrexate	X	1·5 ± 0·7	2 (0·5)	2 (0·5)	1 (0·3)	0	0·37
–	Tazarotene	X	1·0 ± 0·0	2 (0·5)	2 (0·5)	1 (0·3)	1 (0·3)	0·78

U.S. Food and Drug Administration (FDA) pregnancy categories: A, large studies suggest no evidence of harm; B, animal studies show adverse effects and human studies fail to show adverse effects or animal studies fail to show adverse effects and there are no adequate human studies; C, animal studies show adverse risks, but no adequate human studies; D, evidence of human fetal risk from human studies or marketing or investigational experiences; X, evidence that the drug causes harm to the fetus, the risks clearly outweigh the benefits for pregnant women.[4]

in psoriasis due to immunomodulatory changes from increased oestrogen, whereas some women's psoriasis worsens with pregnancy.[2] Psoriasis treatment in pregnant women requires weighing the risks and benefits to both mother and fetus.[3] The U.S. Food and Drug Administration assigns pregnancy categories A–D and X, profiling a drug's relative risk when used during pregnancy (Table 1);[4] the potential benefits of category C and D drugs may outweigh their potential risks.

Studies have made recommendations for managing psoriasis treatments in pregnant women based on the literature,[4,5] which indicate moisturizers and low-to-midpotency topical corticosteroids (category C) as first-line treatments, narrowband/broadband ultraviolet B as second-line treatments, and tumour necrosis factor inhibitors (category B), ciclosporin (category C) and systemic corticosteroids (category C) as third-line treatments.[5] Category X drugs, methotrexate and tazarotene, are contraindicated in pregnancy. Considering these recommendations, this study set out to examine what psoriasis medications physicians are prescribing in practice to pregnant women.

The Truven 2003–2007 MarketScan™ Medicaid Database, containing administrative claims for over 30 million Medicaid enrolees (who were generally patients with lower income) from multiple geographically dispersed states in the U.S.A., was analysed for this retrospective cohort study. Pregnant patients with psoriasis were identified using inpatient/outpatient service records. Each pregnant woman's gestational period was identified by our invented methods, which approximated pregnancy start and end dates based on our algorithm adapted from existing protocols along with national averaged birth outcome-specific gestational periods.[6–8] Figure 1 details the inclusion/exclusion algorithm of the study subjects; the final study sample contains 386 pregnant women

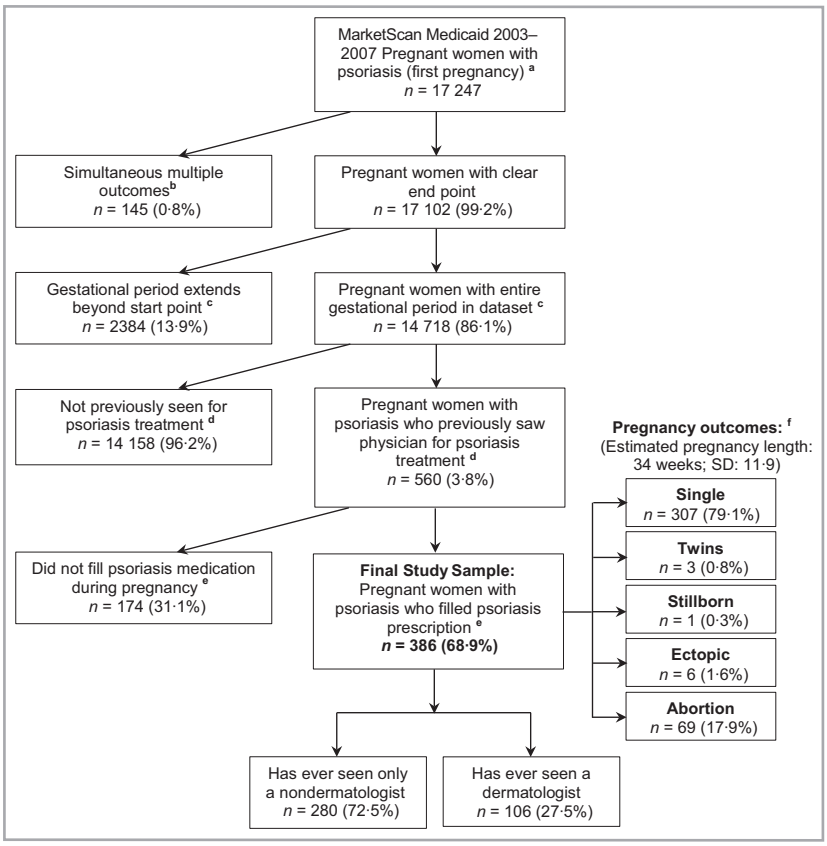

Fig 1. Determining study subjects from MarketScan Medicaid 2003–2007. [a]Only the first pregnancy of a woman in the study period was considered because of the reliance on averages to estimate gestational period. Considering multiple outcomes for each person could result in overlaps in estimated gestational time. Psoriasis diagnosis was determined by outpatient records using the International Classification of Diseases, ninth revision (ICD-9) code 696·1. [b]This study excluded patients who had data errors such as an unreasonable age and simultaneous multiple birth outcomes. [c]In order to determine the use of psoriasis medications, only women with psoriasis whose entire estimated gestational period was between the start and end of the dataset (1 January 2003 and 31 December 2007) were included. [d]In order to capture the psoriasis medication use across patients' entire gestational periods, the pregnancies before the first diagnosis of psoriasis during the study period were excluded. [e]Patients who did not fill psoriasis medications during pregnancy were excluded. [f]Pregnancy outcome categories and ICD-9 codes: single born (650.xx and V27·0), twins (651·01, 651·31 and V27·2–3), triplets (651·11 and 651·41), quadruplets (651·21 and 651·51), stillborn (V27·1, V27·4 and V27·7), abortions (632.xx, and 634.xx–637.xx), ectopic pregnancies (633.xx). Only categories with nonzero counts are shown.

with psoriasis who filled psoriasis prescriptions. The mean age at pregnancy was 23·7 ± 6·46 years, and the estimated average pregnancy length was 34 ± 11·9 weeks. The majority of study subjects were White (288, 74·6%), followed by Black (65, 16·8%), other race (26, 6·7%) and Hispanic (seven, 1·8%).

Table 1 shows the top 10 most popular prescriptions and two category X drugs of special interest, which are reported as the percentage and average number of prescriptions. Psoriasis medications were further categorized by drug type and potency level (corticosteroids only) (Table 2). The most commonly prescribed medications (based on percentage of prescriptions) were topical corticosteroids (122, 31·6%), followed by 'other' topical products including topical vitamin D analogues, pimecrolimus, tacrolimus, topical retinoid, coal tar and calcipotriene products (41, 10·6%). Most topical corticosteroids were low/midpotency. Four patients received methotrexate or tazarotene during pregnancy; two of them received the medication for the entire gestational period. Looking at the trend of drug use over three trimesters, Table 1 shows no significant change across trimesters in the proportion of women receiving the top 10 products. However, there were significant decreases across trimesters in the use of topical corticosteroids (relative change −14%; $P = 0·001$), other topical products (relative change −44%; $P = 0·03$) and class 1 (superpotent) corticosteroids (relative change −38%; $P = 0·03$).

Our study shows that prescribing patterns were mostly in line with the newer treatment recommendations for pregnant women with psoriasis.[4,5,9] More than two-thirds of women who had psoriasis before becoming pregnant still received some form of treatment during their pregnancy. The most common treatments prescribed to pregnant women with psoriasis were topical products; topical corticosteroids combined were overwhelmingly the most frequently prescribed drugs and are within the newly recommended standard of care for treatment of psoriasis in pregnancy.[5] The use of topical corticosteroids in high-potency or prolonged doses increases risk of low birthweight; however, in cases where topical emollients have failed, these drugs are still considered a safe first-line treatment in low-potency or short-term doses.[5,10] The significant decrease across gestational periods in prescriptions for superpotent corticosteroids, as well as corticosteroids overall, is in line with these recommendations, suggesting that physicians are weighing the risks of these more potent drugs during pregnancy. However, we cannot rule out that the disease severity decreased to the point that no high-potency corticosteroids are required.

Calcipotriene, a first-line treatment for pregnant women with psoriasis due to its safety and effectiveness, accounted for only 6·7% of filled prescriptions; however, it had the highest average number of fills (mean 2·4 ± 4·1). Alarmingly, four pregnant women received prescriptions for methotrexate or tazarotene. Care should be taken to ensure patients of childbearing potential are counselled on the abortifacient and teratogenic effects of methotrexate and other category X drugs.[9]

There are a few limitations in this study. Firstly, it did not include over-the-counter products. Secondly, we focused only on the U.S. Medicaid population, which may not be generalizable to patients with other forms of insurance or in other countries. Thirdly, this study considered only the first pregnancy of a woman in order to avoid indeterminacy of possible overlapped gestational time from the estimation. Despite these limitations, this paper contributes to the field of psoriasis pregnancy treatment decisions, which lacks information as to what treatments have been given to pregnant women with psoriasis.

Table 2 Use of psoriasis drugs in pregnant women by drug type, and corticosteroids by drug potency

	Average prescription number, mean ± SD	Total, n (%)	Trimester 1, n (%)	Trimester 2, n (%)	Trimester 3, n (%)	P-value
Drug type (n = 386)						
Topical corticosteroid	2·3 ± 2·1	122 (31·6)	102 (30·1)[a]	68 (25·6)[a]	65 (25·9)[a]	0·001**
Oral corticosteroid	–	0	0	0	0	–
Biological	2·5 ± 0·7	2 (0·5)	2 (0·5)	0	1 (0·3)	0·37
Systemic	1·5 ± 0·7	2 (0·5)	2 (0·5)	1 (0·3)	0	0·37
Other	2·3 ± 3·3	41 (10·6)	39 (10·1)	23 (6·0)	22 (5·7)	0·03*
Corticosteroid potency (n = 122)						
1	2·0 ± 1·4	42 (34·4)	39 (32·0)	24 (19·7)	24 (19·7)	0·03*
2	1·6 ± 1·0	21 (17·2)	18 (14·8)	11 (9·0)	10 (8·2)	0·20
3	1·4 ± 0·7	14 (11·5)	13 (10·7)	8 (6·6)	6 (4·9)	0·21
4	1·7 ± 1·8	42 (34·4)	33 (27·0)	24 (19·7)	26 (21·3)	0·35
5	1·4 ± 1·0	23 (18·9)	17 (13·9)	12 (9·8)	14 (11·5)	0·61
6	1·6 ± 0·8	16 (13·1)	15 (12·3)	8 (6·6)	9 (7·4)	0·23
7	1·6 ± 1·0	21 (17·2)	18 (14·8)	11 (9·0)	10 (8·2)	0·20

[a]Not all subjects were prescribed topical corticosteroids in all trimesters. Pearson χ^2-tests were used to examine the trend of drug use over trimesters. *$P < 0·05$; **$P < 0·01$.

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Two cases of severe hidradenitis suppurativa with failure of anakinra therapy

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Dear Editor, Hidradenitis suppurativa (HS) is a chronic inflammatory and debilitating skin disease with a poor response to traditional treatments.

Of the new therapeutic options available, successful off-label use of anakinra has been reported in patients with severe HS, and in a patient with pyoderma gangrenosum, acne and suppurative hidradenitis (PASH) syndrome.[1–4]

We describe our experience with two patients with severe HS, both of whom were treated with subcutaneous administration of anakinra 100 mg daily.

Physical examination and laboratory analyses were undertaken on both patients every 4 weeks. The main aim was to evaluate their response after 12 weeks of treatment.

The patients completed the Dermatology Life Quality Index (DLQI)[5] questionnaire and underwent Physician's Global Assessment (PGA), which gives a score ranging from 0 (clear) to 5 (very severe), at both the beginning and the end of the treatment. Owing to the extent and severity of the lesions, the Hidradenitis Suppurativa Score, simplified by Sartorius *et al.*,[6] was considered inadequate to evaluate the treatment response.

The first patient was a 32-year-old man with PASH syndrome of 15 years, with no response to multiple antibiotics, methotrexate, sulfone, ciclosporin, finasteride, surgery and biological therapies (infliximab, adalimumab, ustekinumab). He was an ex-smoker with a body mass index (BMI) of 25 and a family history of HS. At the start of treatment, the patient had a DLQI score of 17 and a PGA score of 4.

In the past year he had been treated with oral corticosteroids (40 mg daily), trimethoprim/sulfamethoxazole (800/160 mg daily) and amoxicillin/clavulanic acid (2 g three times daily). Considering the limited control of his lesions he was also treated with anakinra. Analysis of the cytokine profile in a blood sample did not show high levels of interleukin-1β (3 pg mL^{-1}; normal range 0–5 pg mL^{-1}). After 12 weeks there were no changes in DLQI or PGA scores and therefore treatment with anakinra was stopped (Fig. 1a–d).

The second patient was a 30-year-old man with acne, Crohn disease and severe HS of 5 years, localized mainly in the groin area, with resistance to systemic drugs (multiple antibiotics, isotretinoin, infliximab) and partial results with surgery. The patient had a DLQI score of 15 and PGA score of 4. He was a nonsmoker with a BMI of 19.9 and no family history of HS.

The patient was being treated with isotretinoin (30 mg daily), clindamycin (300 mg twice daily) and levofloxacin (500 mg twice daily) when he started receiving anakinra. After 2 months both facial and inguinal abscesses worsened (Fig. 2a, b), with a resulting PGA score of 5 and a DLQI score of 17. Treatment with anakinra was stopped. Significant improvement was seen after a 10-day course of oral corticosteroids.