



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>

INTERNATIONAL JOURNAL  
OF ADVANCED RESEARCH

## RESEARCH ARTICLE

## Basosquamous carcinoma (BSC) in old Iraqi patient treated with 25% topical podophyllin solution

Dr. Mohammad S. Al-Zoubaidi MD.FICMS.

Dermatologists, Dermatology and Allergy Center. Baghdad, Iraq.

### Manuscript Info

#### Manuscript History:

Received: 05 November 2015  
Final Accepted: 26 December 2015  
Published Online: January 2016

#### Key words:

Basosquamous carcinoma (BSC), basal cell carcinoma (BCC), deoxyribonucleic acid (DNA) and podophyllin.

#### \*Corresponding Author

Dr. Mohammad S. Al-Zoubaidi MD.FICMS

### Abstract

**Background:** Basosquamous carcinoma (BSC) is subtype of BCC reported to constitute approximately 0.4 to 12% of all basal cell carcinoma (BCC).<sup>(1)</sup> It has also been called basaloid squamous carcinoma, and metatypical BCC.<sup>(2)</sup> The term BSC should be used only to define lesions that bear both typical histopathological features of BCC and SCC in conjunction with a transitional zone. BSC is reported to have a higher prevalence of metastasis even higher than SCCs<sup>(3)</sup>. Podophyllin is an antimitotic and caustic agent.

**Objective:** to test the effectiveness of topical 25% podophyllin solution in treatment of BSC.

**Methodology and results:** 70 years old male, Farmer, skin type 4, Baghdad' presented with indurate keratotic lesion on mid the nose for 6 months duration treated with topical podophyllin solution (25%) weekly for six weeks.

**Conclusion:** Topical 25% podophyllin solution is effective in treatment of Basosquamous cell carcinoma and some types of basal cell carcinoma, with good cosmetic result.

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## INTRODUCTION

Basosquamous carcinoma (BSC) is subtype of BCC reported to constitute approximately 0.4 to 12% of all basal cell carcinoma (BCC).<sup>(1)</sup> It has also been called basaloid squamous carcinoma, and metatypical BCC.<sup>(2)</sup> The term BSC should be used only to define lesions that bear both typical histopathological features of BCC and SCC in conjunction with a transitional zone. BSC is reported to have a higher prevalence of metastasis, even higher than SCCs<sup>(3)</sup>. And these lesions are best treated and followed up as carefully as SCC, in terms of the risk of deep invasion, recurrence, and metastasis.

**Clinical presentation:** These tumors occur mostly on the face, neck, and ears. Vary in between flat to slightly raised lesions red papules to large ulcerated tumors.<sup>(3)</sup>

**Histopathology:** true BSC has three major components: (fig-1)

1. Basaloid components exhibit the features of BCC with basaloid, dark staining, well-circumscribed tumor blends that show peripheral palisading and peritumoral clefting.
2. Squamous components show SCC-like features with larger, lighter stained cells with a tendency to keratinize consistently with epidermal involvement.
3. The intermediate component is the transition zone in between two polar differentiation attempts where the neoplastic cells have neither typical feature of BCC nor of SCC but rather in between.(1,4,5,6)

**Prognosis:** these tumors have a markedly:

- ✦ Higher risk for metastases than do BCC or SCC alone.
- ✦ BSCs have a propensity for recurrence, lymph node, and distance metastasis, (7.4% metastasis rate)<sup>(3)</sup>

Predictors of tumor recurrence include male sex, positive surgical margins, lymphatic invasion, and perineural invasion. Mohs' micrographic surgery is indicated for these types of tumors and long-term follow up.

### **Podophyllin:**

Podophyllum resin, also known as Podophyllin, is an antimetabolic and caustic agent. Natural sources of Podophyllum are the dried resin extracted from the roots and rhizomes of *Podophyllum peltatum* (known as American mandrake, May apple, Ducks' foot, Indian apple) or a related Indian species, *p.hexandrum*; active constituents are lignans including podophyllotoxin (20%), alpha-peltatin (10%), and beta-peltatin (5%)<sup>(7-9)</sup>. Podophyllum resin (Podophyllin) is the powdered mixture of resins extracted from Podophyllum by percolate with alcohol and subsequent precipitation from the concentrated percolate upon addition to acidified water. Podophyllum is indicated for the treatment of condyloma acuminatum (venereal warts).<sup>(7-9)</sup>

### **Mechanism of action:**

Podophyllum resin's major active constituent, podophyllotoxin, is a lipid-soluble compound that easily crosses cell membranes;

- ✦ Potent cytotoxic agents that inhibit cell mitosis and deoxyribonucleic acid (DNA) synthesis.
- ✦ It blocks oxidation enzymes in tricarboxylic acid cycle, so it will interfere with nutrition of the cells.
- ✦ And it is also inhibits mitochondrial activity and reduction of cytochrome oxidase activity.<sup>(8,9,13,14)</sup>

**Methodology and results:** 70 years old male, Farmer, skin type 4, Baghdad' presented with indurate keratotic lesion on mid the nose for 6 months duration , about 2cm×1.5cm, start as small lesion increase gradually no association with pain no itching. The patient had history of heavy sun exposure, and heavy smoking. No family history of such disease or any malignancy. No history of medical diseases or past surgical history. Not allergy to penicillin or other medication.

On examination 70 year-old patient presented with indurate keratotic lesion on mid the nose hard in consistency about 2cm×1.5cm, no palpable lymph nodes. Slow growing since 6 months (fig-2a). After Full clinical, and laboratory investigation, punch biopsy were done for the lesion at the first visit for Histopathological examination, and Serial-section skin biopsies were stained with hematoxylin & eosin. Biopsy showed Basosquamous carcinoma. The patient was fully screened to recording podophyllin side effects through and after treatment by doing the following investigations: liver and, renal function tests, complete blood picture, erythrocyte sedimentation rate, serum electrolytes, fasting blood sugar, serum amylase, general urine examination, Lactic Dehydrogenase (LDH).

**Treatment session:** treatment sessions are given every week for 6 weeks. The amount used in each session did not exceed 0.5ml. The solution was allowed to dry in approximately 3 minutes and patients were instructed to wash off it after 5hours. And on each visit the size of the lesion was assessed by marking the lesion and measuring its diameter with a ruler and taking a photo in the same place, light exposure and two dimensions, by using SONY® CORP.MODEL NO.DSC-W220. 12.1 MEGA PIXELS

Biopsy and histopathological examination were done for the lesion treated and Serial-sectioned skin biopsies were stained with hematoxylin & eosin: (the lesion showed no residual carcinoma cells after six sessions of topical podophyllin solution for six weeks).and there is complete healing with no scar present. (Fig-2b)

**Follow up:** Number of treatment sessions was determined according to the clinical and histopathological response. Clinical follow up examinations after cure were done every 3 months for up to 18 months, and Patients were also instructed to come back if any suspicious lesion appeared at the site of healing lesion or nearby in order to determine the recurrence rate.

Inflammatory reaction was noted in the treated lesion and this appeared as edema and redness 36-72 hour after application of podophyllin solution with slight pain. This local reaction was more exaggerated after further 3-5 days after podophyllin application as the lesion became ulcerated and some discharge, after that crust formation appearing in the lesion.

Regarding the side effects, no evidence of systemic side effects was found in any of these cases, and this had been confirmed by clinical examination and lab results including blood picture, liver, and renal function tests. No scarring was noticed after healing the lesion (fig-2b).

**Discussion:**

BSC is reported to have a higher prevalence of metastasis, even higher than SCCs<sup>(3)</sup>. And these lesions are best treated and followed up as carefully as SCC, in terms of the risk of deep invasion, recurrence, and metastasis. We need more patients and more lesions to improve the efficacy of the podophyllin in treatment of such tumors especially on old patients who are not fit for surgical and radiation therapy. A lot of doctors afraid from use of podophyllin for their side effects, but this is not correct. We must select the patients that treated with podophyllin; not pregnant, no neurological abnormality and peripheral neuropathy.

**Conclusion:**

Topical 25% podophyllin solution is effective in treatment of Basosquamous cell carcinoma and some types of basal cell carcinoma. It can use for any age but especially for elderly patients and those who not fit for surgery and radiotherapy.

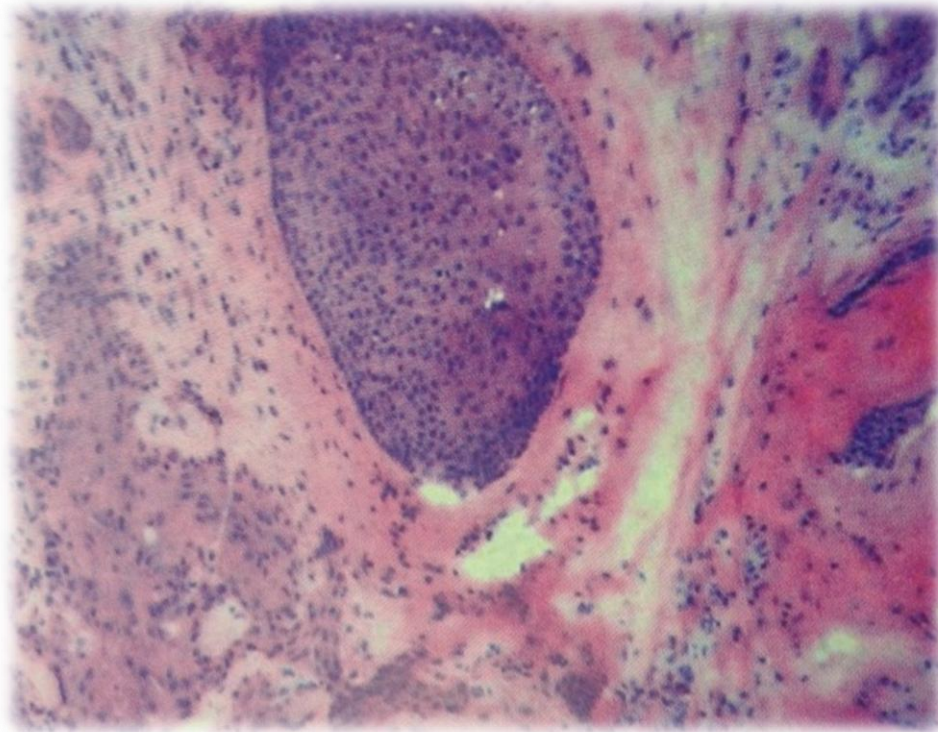
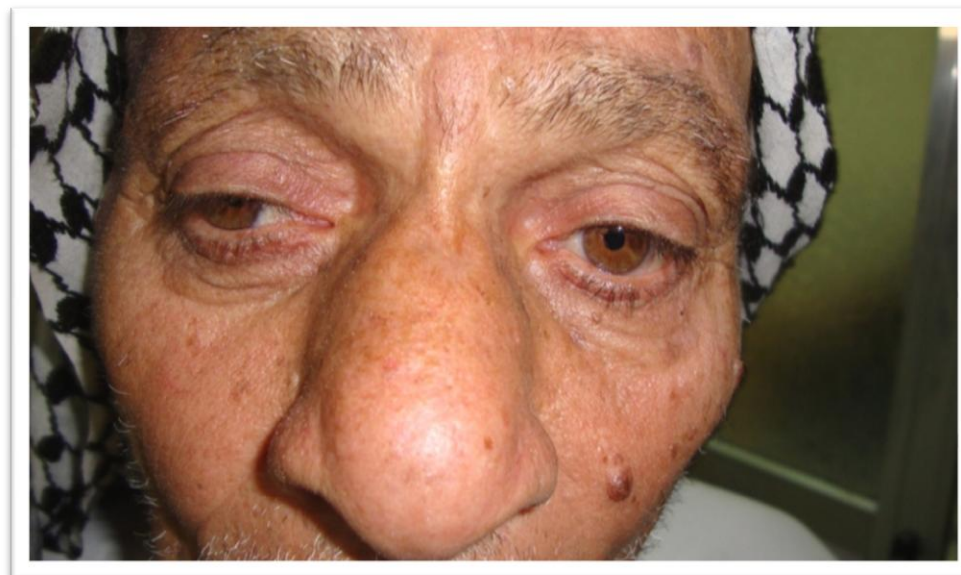


Fig-1: Histopathology of BSC



**Figure 2-a: Showing patient with Basosquamous cell carcinoma of the nose before treatment with podophyllin.**



**Figure 2-b: The same patient showing a full cure after with podophyllin application; after 6 sessions.**

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