

# Serum squamous cell carcinoma antigen: a potential marker for benign vulval disease?

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*Summary:* Benign vulval disease comprises a variety of disorders and can affect women of all ages. To date, the optimal management of these conditions has been uncertain and not subjected to a systemic prospective approach.

It is recognized that benign vulval disease has a potential premalignant potential.

Squamous cell carcinoma antigen (SCCA) has shown in different studies to be an effective means of monitoring the course of the disease in cervical carcinoma.

Elevated levels of SCCA have been found in the skin. In addition, raised SCCA levels have been found in non-carcinomatous inflammatory dermatoses, and the levels observed correlated with the extent of the disease and the response to therapy.

It was thought that SCCA might prove to be a useful marker for benign vulval disease, and in our pilot study the objectives were to determine if levels of SCCA are elevated in patients with that disease and to assess whether there is an association between SCCA and clinical response to treatment.

## INTRODUCTION

Benign vulval disease comprises a variety of disorders and can affect women of all age. These conditions include lichen sclerosis et atrophicus (LSA), squamous cell hyperplasia, vulval intra-epithelial neo-

plasia (VIN), vestibulitis and Human Papilloma Virus-related vulvodynia. They can cause persistent and troublesome pruritus vulvae and soreness.

To date, the optimal management of these conditions has been uncertain and not subject to a systemic prospective approach.

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## THE PROBLEM

It is recognized that benign vulval disease has a pre-malignant potential. At present, other than formal histology and occasionally vulvoscopy, there are no useful prognostic factors to identify patients who are at high risk for malignant changes. Also, the response to treatment can only be assessed subjectively on the basis of the patients symptoms and quality of life.

Squamous cell carcinoma antigen (SCCA) is a subfraction of Tumour Associated Antigen (TA-4) expressed by cervical squamous carcinoma.

Several studies have demonstrated that serum levels of SCCA could provide an effective means of monitoring the course of the disease in patients with cervical carcinoma.

Elevated levels of SCCA have been found in the skin. In addition, raised SCCA levels have been found in non-carcinomatous inflammatory dermatoses and the levels observed correlated with the extent of the disease and the response to therapy (Duk, 1989).

It was thought that SCCA might prove to be a useful marker for benign vulval disease and in our pilot study the objectives were to determine if levels of SCCA are elevated in patients with that disease and to assess whether there is an association between SCCA levels and clinical response to treatment.

## MATERIALS AND METHODS

Between August 1991 and September 1992, 92 patients were entered into the study with the following criteria:

- 1) Histologically confirmed benign vulval disease;
- 2) Previously untreated patients;
- 3) Negative cervical smears;
- 4) No other dermatoses or history of malignancy;
- 5) Informed consent.

10 mls clotted blood samples were centrifuged and the serum stored at  $-20$  degrees C.

Detection of SCCA using a microparticulate enzyme immunoassay kit with the Abbot IMEX analyzer (Abbot Laboratories Diagnostic Division).

It was planned to take the blood samples prior to treatment and at monthly intervals during the treatment course, and also to compare the SCCA levels with the clinical severity of the condition (vulvoscopy & biopsy).

## RESULTS

Among healthy individuals, 5% have SCCA levels greater than 1.5 ng/ml. In

Table 1. — Serum Cell Carcinoma Antigen values in benign vulval diseases.

Condition	Number of cases	SCCA > 1.5 ng/ml
Essential vulvodynia .	9 (9.78%)	1
Human Papilloma Virus	26 (28.26%)	1
Squamous cell hyperplasia . .	18 (19.56%)	1
Lichen sclerosis et atrophicus . . .	28 (30.43%)	6
Squamous cell carcinoma	1 (1.08%)	0
Lichen simplex chronicus	1 (1.08%)	0
VIN I . . . . .	5 (5.43%)	0
VIN II . . . . .	1 (1.08%)	0
VIN III . . . . .	3 (3.26%)	0

our study, only 10 patients (10.86%) with histologically confirmed pathologies of the vulva had SCCA values above 1.5 ng/ml.

There was no association between elevated SCCA and any vulval condition, and no correlation with atypia in patients with VIN. The results were analyzed using Number Cruncher Statistical System software on an IBM-compatible personal computer.

## DISCUSSION

There is a need for a non-invasive method of determining patients with benign vulval disease who are at high risk of malignant change and also of assessing the response to therapy. Such a marker would have a great value.

It was thought that SCCA might qualify to be such a marker, but our study showed that it is non-specific and has a very low sensitivity (10.86%) which precludes its use as a marker of the severity of benign vulval disease.

We report the results of the study in order to dissuade others from embarking on similar research.

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