KERATOACANTHOMA—A CASE REPORT

By

S. R. SADANA,* R. C. SARIN** & KAMLESH KUMAR***

Keratoacanthoma is relatively a more common tumour of the skin than believed. It is important because it bears a close resemblance to squamous cell carcinoma. It has been a subject of a number of publications abroad but it has hardly attracted any attention in this country. Sir J. Hutchinson[3] was the first to describe it in 1888 under the title, "Crateriform ulcer of the face" but it remained almost obscure till Ferguson Smith[8] in 1934 published a case report of this disease entitled, "Multiple Primary Squamous-celled Carcinoma in a youngman with spontaneous healing", and brought it once again to lime-light. Since then our knowledge about this entity continued to widen and a number of new variants have been added to the literature.

CASE REPORT

Serimati Isher Dai, aged 50 years, of village Narayana in Jammu State, occupation household, came under our observation on 13-1-1968. She was first referred to us by the surgical unit for our opinion only, but later, after 24 days, transferred to our skin diseases ward.

She stated on 13-1-1968 that the swelling on left half of upper lip was of nearly one month's duration. Its appearance was preceded by mild itching for one day at that very site. The swelling when first noticed was pea-sized but enlarged rapidly. A fortnight after onset of the first swelling, she saw another similar swelling, above and lateral to the first. When she came under our observation on 13-1-68 the main swelling had extended from philtrum medially to left angle of the mouth laterally, and the second swelling had became cherry-sized and was lying just contiguous to the main lesion. She admitted of experiencing mild pain off and on in it, but denied history of any exudation, discharge, or crust formation from it at any time. She also denied preceding history of burn, boil, injury, plucking of a hair, herpes or local application of an irritant to the affected site. The skin at that area as a matter of fact was perfectly normal before appearance of the swelling. Family and personal history was non-contributory.

EXAMINATION

Examination on that day revealed her to be a moderately built and moderately nourished individual. She had moderate degree of anaemia (Hb. 8.5 gm.%). No other abnormality was detected either in general physical examination or in the examination of chest, heart, abdomen, nervous system and skeletal system.

---

*Professor, **Senior Lecturer, ***Registrar, Medical College and V. J. Hospital, Amritsar, Skin & V. D. Department.

Received for publicatian on 21-2-1969.

There was a sessile, oval, flattened, elevated, pinkish tumerous plaque measuring 4.3 x 2.4 x 0.9 cms., situated over left half of the upper lip. It had rounded, fairly firm, and well defined margins. Its surface was smooth, shiny, studded with numerous milk-white spots and was traversed by telangiectatic blood vessels. Its base looked constricted and probe could not be pushed under it. There was no crater or crust formation on it. The mucous membrane of the corresponding area of the lip was absolutely normal and there was no fixation to the underlying structures. Regional glands were not enlarged.

The satellite lesion measured 1.5 cms. in diameter and had similar characters (Fig. 1).

PROGRESS REPORT

Biopsy from the main lesion was performed in the surgical wards on 15.1.68. A brown crust appeared on the plaque a little away from its centre after the biopsy. Later, excision biopsy of the satellite was also done by the surgical unit on 30.1.68. By that time the patient had developed another (second) satellite at philtrum near the nostril.

On 6.2.68 when patient was transferred to our ward, main plaque had attained the size of 4.6 x 2.6 x 0.9 cms , and two satellites–one at the angle of the mouth, and another on the left buccal mucous membrane (a papular swelling)-had made their appearance.

On 21.2.68, the main lesion was found to be of the same size as before but still it was apparent that the resolution had started and its surface looked a bit flattened and its elevation distinctly less. The satellites at the angle of the mouth and on buccal mucous membrane, on the other hand, had increased in size. The satellite at the angle of the mouth was almost merging with the main plaque above and encroaching on to the lower lip below.

On 27.2.68, the main plaque was actually found regressed and its measurements were 4.1 x 2.4 x 07 cms. Frank telangiectasia was present on that day only on the borders, and colour of its surface as well as of the white spots was pale brown. Another small lesion (5th satellite) had appeared on the right cheek two days earlier. Its surface was just scraped with the needle for study of the nature of white specks under microscope. But this resulted in its disappearance in a few days.

On 11.3.68, the measurements of the main plaque were 4.0 X 2.1 X 0.7 cms., the satellite at left angle of the mouth was also reduced in size and shrivelled up, and the satellite at philtrum had coalesced with the main plaque whilst the lesion at buccal mucous membrane on the other hand was still increasing in size.

On 23.3.68, the main plaque and satellite at angle of the mouth were found further regressed, the satellite at buccal mucous membrane had also become stationary but four new satellites–two on the philtrum again and two near the angle of the mouth–had appeared. It was decided on that day to take another biopsy to study

further histopathology of the main involuting lesion. When incision was made, the lesion in the centre crumbled leaving raised and still active borders at either end. The skin exposed was rather thickened but otherwise normal and without any evidence of scarring (Fig. 2). The friable material obtained was sent for examination.

The new satellites-at philtrum, at the angle of the mouth–and remnants of the main plaque at borders were seen to undergo progressive reduction gradually and disappeared. When patient was discharged on 20.5.68, the skin of the upper lip looked normal, except it still looked slightly more thickened as compared to the right half of the upper lip. There was no scarring.

During whole of the period of observation, she remained afebrile and did not lose weight. Patient never returned for check up after discharge.

INVESTIGATIONS

Investigations done in our ward, including STS, X–ray chest, urine, stools, and blood examinations, did not reveal any abnormality.

HISTOPATHOLOGY

Biopsy from main mass (15.1.68): Examination of the section (Fig. 3) revealed a mass of keratin localized mainly on one side and occupying three–fourths of its depth. In the remaining area epidermis was covered with just a thin layer of keratin only, though a plug of keratin was present in a down–growing epithelial peg. The epidermis was proliferative and showed marked acanthosis and deepened rete–pegs, but when traced towards the keratinized mass it became less and less acanthotic. The portion of the epidermis which actually covered the keratinised mass partially was of normal thickness and was seen to fold on itself enclosing a strip of connective tissue assuming the appearance of a lip. The granulosa cell layer at places was prominent and 7 to 8 cells thick. The basal cell layer was intact in most of the areas. At places where it was not well defined, it was seen being invaded by the in–flammatory cells. The corium was occupied by similar but papillomatous and acanthotic masses of epidermal cells enclosing islands of connective tissue infiltrated with cells. Tne infiltrate consisted mainly of round cells but a few mononuclear cells and sprinkling of eosinophils were also present. The massive acanthosis seen in the section, however, showed no histologic feature of malignancy, for example, there was no nuclear hyperchromasia, no marked or abnormal mitosis, no epithelial atypia and no disarrangement of cells, and no lymphatic permeation. However, there was a tendency to form keratin pearls.

Excision biopsy of the satellite (30.1.68): Section of the satellite revealed histopathology which was more or less the same as above. However, there was less of ketatin formation, but marked cellular infiltration in between acanthotic layers. The subcutis showed sebaceous and sweat glands.

Biopsy of mucous membrane lession: It revealed just hypertrophy of squamous epithelium with a mild inflammatory infiltrate underneath.

Biopsy of shrivelling main mass: The section taken on 28-3-68 revealed just lamellae of keratin.

DISCUSSION

The salient features of the case on 13-1-68 were: (a) a rapidly growing tumerous swelling on left half of upper lip with a satelite just above and lateral to it, (b) lack of ulceration, discharge or crust formation, (c) lack of involvement of regional glands, absence of infiltration or induration of the base as well as of surrounding skin.

A provisional diagnosis of keratoacanthoma was made on that day. Possibility of epidermoid carcinoma was considered but excluded because of its too rapid an enlargement (from pea size to 4.1 cms. in one month), lack of ulceration, induration and infiltration of either the base or surrounding skin, no involvement of regional glands, and normal mucous membrane surface of the lip corresponding to the site of the tumour. Pseudo-epithelimatous hyperplasia was also not considered possible as there was no history of a pre-existing lesion, or burn or injury. Pseudo-epithelioma of Azua, and pyoderma vegetans regionale (a form of chronic pyoderma) were also excluded as lesion remained dry throughout its course, there was no crust formation up to that time, no evidence of pus even on squeezing and no regional adenopathy.

Examination of scrapings of the white specks on the plaque under the microscope revealing no pus cells but keratinised epithelial lamellae and histopathological features of the biopsy specimen taken on 15.1.68, lent further support to the diagnosis of keratoacanthoma. Lack of any malignant features in the histopathological study of the specimen encouraged us to keep the patient under observation and watch its course. Its spontaneous resolution and ultimate disappearance in nearly 3 months time more or less clinched the diagnosis of keratoacanthoma, and also made certain that the possibility of squamous cell carcinoma could not be entertained. There are, however, a few atypical features about it which need a little discussion and emphasis.

Baer and Kopf[1], in their review of Keratoacanthoma in Year Book of Dermatology 1962-63, caution against the diagnosis of this disease whenever a tumerous lesion exceeds 2 cms. in size, though they themselves mention that it may occasionally far exceed this size. The maximum size attained by keratoacanthoma in our case is 4.6 cms. The largest size reported of kerato-acanthoma so far is 6" X 7" by Duany (1958)[2]. Keratoacanthoma in his case was situated on anterior thorax. We are, however, not aware of the maximum size reported of this benign tumour on lip or face.

Mucous membrane lesions do occur but are rare. This involvement is more common in multiple type of keratoacanthoma.

The present case also developed a lesion on mucous memberane and thus exhibited this rather rare feature.

Our case did not show a central crater throughout its course. Though this is a very characteristic feature when present, keratoacanthomas without it are also well known. Further, keratoacanthoma in our case disappeared without leaving any residual scarring. We do not know if this is usual with the type of keratoacanthoma which are without this important feature of crater as in our case.

The three main types of this tumour described in the literature are: (i) Solitary type-which is identical to keratoanthoma of Freudenthal or molluscum sebaceum of MacCormac and Scarff, (ii) Multiple type of Ferguson Smith, (iii) Generalised type by Baer and Kopf, described as "Eruptive Keratoacanthoma". However, a number of variants closely related to the above have also been described. Spier and Thies[9] in 1956, described a variety in which patient developed eleven lesions of this disease in a circumscribed area which later merged with each other. Our case compares closely to this variety of circumscribed keratoacanthomatosis and consisted of eight aggregated keratoacanthomas.

There were, however, two following differences from the case described by Spie and Thies.[9] First, two satellites were at a distance from the main lesion, and secondly our case had no ulceration and left no scar formation on resolution.

SUMMARY

A case of keratoacanthoma is described in detail. The patient was admitted with a swelling on left half of the upper lip. New satellites went on appearing as the main mass shrivelled. In three months time the main mass and all the satellites disappeared without residual scarring.

ACKNOWLEDGEMENT

We are grateful to Dr. N. L. Chitkara, Professor of Pathology for the relevant investigations.

REFERENCES

1. Baer, R. L., and Kopf, A W.: Keratoacanthoma. in The Year Book of Dermatology, 1962–63, Edited by Baer, R. L., and Kopf, A. W. Year Book Medical Publishers, Chicago, pp. 7–41.
2. Duany, N. P.: A.M.A. Arch. Dermat., 78 703–709, 1958.
3. Hutchinson, J.: Tr. Path. Soc. London, 40: 275–81, 1889, quoted by Baer and Kopf (1962–63).
4. Job, C. K.: Indian J. Path. & Bact., 6: 160–162, 1963.
5. Popkin, G. L., Brodie, S. J., Hyman, A. B., Andrade, R., and Kopf, A. W.: Arch. Dermat., 94: 191–193, 1966.
6. Rook, A., and Moffatt, J. L.: A.M.A. Arch. Dermat., 74: 525–532, 1956.
7. Smith, J. Ferguson: Brit. J. Dermat., 46: 267–272, 1934.
8. Smith, J. Ferguson: Brit. J. Dermat., 60: 315–318, 1948.
9. Spier, H. W., and Thies, W.: Hautarzt, 7: 206–209, 1956.
10. Stevanovic, D. V.: Arch. Dermat., 92: 666–669, 1965.

Figurs (see photo section)

LEGENDS

Fig. 1 : Showing main mass with its satellite.
Fig. 2 : Showing the main lesion after partial removal of shrivelled up mass.
Fig. 3 : Microphotograph of the section from main mass.