

ferent anlagen; the tumors were removed surgically and up to the present date our patient has shown no evidence of metastases. He appears to be progressing physically under the course of radiation therapy as outlined.

CONCLUSIONS

1. Carcinomas of the male breast are responsible for 1.24 per cent of the carcinomas of the breast in both sexes.

2. Carcinomas are eighty times more prevalent in the female breast than in the male breast.

3. Surgical excision combined with postoperative irradiation has been found to be the treatment of choice.

4. Skeletal muscle sarcomas may be derived from any of the contiguous and continuous structures anatomically associated with the muscle; treatment here is preferably surgical excision followed by postoperative irradiation.

5. Neurofibromas of the skin are relatively benign neoplasms and in this instance did not show any evidence of malignant change.

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ALOE VERA IN THE TREATMENT OF ROENTGEN ULCERS AND TELANGIECTASIS

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The use of the fresh whole leaf of aloe vera in the treatment of roentgen dermatitis was suggested by C. E. and Creston Collins.¹ Early in 1935 they reported the case of a woman, aged 31, who had had a severe roentgen dermatitis of the left forehead following a depilating roentgen treatment. Various local treatments were tried without effect, and exfoliation and severe itching persisted at the treated site. The patient received a local application of the fresh whole leaf of aloe vera to allay the itching. Within twenty-four hours the sensation of itching and burning subsided and the condition progressively improved within the next five weeks and showed "complete regeneration of skin of the forehead and scalp, new hair growth, complete restoration of sensation, and absence of scars."

Radiation sequelae have been classified by Wise and Sulzberger² as "(1) pigmentation, (2) telangiectasis, (3) sclerosis, (4) keratoses, (5) persistent desquamation, (6) wrinkling, (7) atrophy, (8) ulceration and (9) cancer." In their hands sequelae characterized by pigmentation, telangiectasis and sclerosis have not responded favorably to treatment with solutions and ointments impregnated with thorium X, radium salts or radon. Ulcerative lesions exhibiting no evidence of malignant degeneration would, of course, occasionally respond to ointments of these types, although Wise and Sulzberger state that Dr. Miescher of the Zurich clinic, who has had a wide experience with thorium X, radium and radon preparations in the treatment of x-ray sequelae, has abandoned these remedies and employs other palliative as well as surgical methods of treat-

ment. In this country most dermatologists and surgeons have treated radiation ulcers by surgical removal of the affected tissue, closing the defect by sutures, grafts or skin flaps.

Following a personal communication from Dr. Creston Collins in 1934, in which he warned me that results could not be expected in x-ray sequelae of more than two years' duration, I began the use of the fresh aloe vera leaf in the treatment of two cases of x-ray telangiectasia resulting from ill advised attempts at x-ray depilation by local advertising concerns, and in one case of radium telangiectasia of ten years' duration. Because of the difficulty of applying the whole leaf directly to the areas in question, I scraped out the intestinal contents of the aloe vera leaf and mixed it with an equal quantity of aquaphor and had the patient massage this into the skin every night.

The aloe vera leaf contains a large quantity of light yellowish green material having about the color and consistency of lemon jello; it is the intestinal material that is used for local application. The directions given by C. E. and Creston Collins are to spread the leaf lengthwise or cut it into thick cross sections, macerate the intestinal material, and while it is still fresh to apply liberal quantities to the area to be treated, covering it with a neutral, nonporous substance such as waxed paper. A bandage is used to keep it in place.

When a piece of the leaf is applied in this way to an open lesion and removed after several hours, the resinous, gelatinous substance of the leaf has apparently disappeared, leaving only the hard outside shell. It would appear that this substance is absorbed by the skin or eroded tissue.

Since October 1934 seven cases of x-ray telangiectasia and the one case of radium telangiectasia have been treated by this method. No improvement was obtained as regards the degree of telangiectasia but the texture of the skin was improved in all cases. One



Fig. 1 (case 2).—Appearance of hands Dec. 23, 1935 (photograph courtesy of Dr. George Pfahler).

could not expect that the telangiectasia resulting from excessive x-ray application would be improved by any method that did not include destruction of the enlarged vessels.

My purpose in this paper is to present the remarkable improvement obtained in two cases of x-ray ulceration with the hope of stimulating interest in what promises to be a revolutionary method of treatment for early x-ray damage to the skin and ulceration of the skin resulting from x-rays:

CASE 1.—Mrs. C., aged 60, received prolonged x-ray treatment for an eczema of the hands prior to 1920. In 1932 she

1. Collins, C. E., and Collins, Creston: Roentgen Dermatitis Treated with Fresh Whole Leaf of Aloe Vera, *Am. J. Roentgenol.* 33: 396 (March) 1935.

2. Wise, Fred, and Sulzberger, M. B.: *Year Book of Dermatology and Syphilology*, 1935.

developed fissuring and superficial ulceration of the palmar surface of the right forefinger and thumb. This condition gradually became worse. In June 1935 treatment was started with the aloe vera ointment made as described, with marked improvement in the condition of the hands and complete healing by September 1935. The patient has found it necessary to continue the use of the ointment in order to keep the skin in good condition.

In view of the warning of Dr. Creston Collins that little could be expected in the treatment of x-ray sequelae of more than two years' duration, the results in this case were most encouraging.

The following more striking case illustrates the value of following the method originally suggested by Dr. Collins of employing the plant itself directly to the lesions:

CASE 2.—Dr. S., aged 43, in 1933 while attempting to remove a needle from a patient's finger under fluoroscopic direction sustained a prolonged exposure to the x-rays, resulting in the production of an acute roentgen dermatitis involving the thumb and the first, second and third fingers of the left hand. This dermatitis appeared approximately two and one-half weeks after exposure. Under application of thymol iodide powder the local inflammation and exudation diminished and the lesion partially healed. In November 1935 the skin of the burned area broke down with the development of superficial ulceration, considerable exudation and crusting. This was the condition



Fig. 2 (case 2).—Appearance of hands Jan. 15, 1936, three weeks after beginning the application of aloe vera.

of the hand when the patient first consulted me at the suggestion of Dr. John H. Stokes, who was familiar with my interest in the treatment of any available roentgen sequelae with aloe vera. The skin surrounding the ulcerating area showed telangiectasia and atrophy. There could be no doubt of the fact that the condition of the fingers and thumb was due to x-ray effects, and Dr. Stokes concurred in the diagnosis of x-ray telecratation.

Treatment was immediately started with aloe vera, the leaf being applied according to directions at night, and an ointment of aloe vera (Alvigel, as prepared by Dr. Creston Collins) during the day. Applications of the ointment were covered directly with cellophane to promote skin absorption. In three days there was a marked improvement in the appearance of the fingers and in three weeks the skin was virtually healed, as is best demonstrated by the accompanying illustrations.

SUMMARY

In view of the unfortunate but nevertheless occasional burns that may result from overexposure to roentgen rays, any therapeutic agent that offers a hope of quick healing and relief of discomfort in such sequelae is worthy of further study. From the cases reported it would seem that x-ray ulceration, even of several years' duration, will respond to the use of aloe

vera. The permanence of results can be determined only by watching cases thus treated over a period of time.

Little can be expected in the treatment of telangiectasia as a result of irradiation beyond a smoothing and softening of the affected skin.

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RELAXATION OF THE SYMPHYSIS PUBIS IN PREGNANCY

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Over two centuries ago Mauriceau,¹ in refuting the opinion that the pubic bones separated in labor, wrote "Others are of the opinion . . . that these bones, thus separated at the time of labour, are thereto by degrees a little before disposed by the slimy humours which flow forth from about the womb, and these mollify the cartilage, which at other times join them firmly." In the light of present-day knowledge this opinion of "others" is of great interest, for relaxation of the symphysis pubis during pregnancy appears to be an established fact.

Relaxation of the pelvic joints during pregnancy has been recognized for many years. As early as 1870 Snelling² wrote that "relaxation of the pelvic articulations becomes apparent suddenly after parturition or gradually during pregnancy, permitting a degree of mobility which hinders locomotion and gives rise to the most alarming and distressing sensations." However, it is only within a comparatively short time that accurate observations have been made showing the frequency and degree of separation of the symphysis pubis. In this regard the contributions of Heyman and Lundqvist³ in 1932 and Abramson, Roberts and Wilson⁴ in 1934 are outstanding. The first named authors conclude that the symphysis increases in width in all pregnant women and decreases in width in the postpartum period. In their series of seventy-four pregnant women (forty-eight primiparas, twenty-six multiparas) the average width of the symphysis was within 7 and 8 mm., with a maximum width of 12 mm. The greatest increase was found within the fifth and seventh months of the antepartum period. However, no measurements were made before the fifth month of the antepartum period.

The second named authors studied normal multiparas, normal males, pregnant multiparas and twenty-five consecutive primiparas and concluded that relaxation of the symphysis begins in the first half of pregnancy, progressing but slightly in the last three months, and that retrogression begins immediately following delivery and is usually completed by the end of from three to five months. They also conclude that there is no essential difference between the behavior of the pelvic articulations in primiparas and in multiparas.

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4. Abramson, Daniel; Roberts, S. M., and Wilson, P. D.: *Relaxation of the Pelvic Joints in Pregnancy*, Surg., Gynec. & Obst. **58**: 595 (March) 1934.