RADIAION THERAPY IN HERPES ZOSTER AND POST HERPETIC NEURALGIA

by

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Herpes Zoster is an acute viral infection characterized by the appearance of tense grouped vesicles on erythematous base which arise along the course of one or more sensory nerves extending from the posterior root ganglion. It is believed that chicken pox virus causes zoster. Head and Campbell observed that the posterior root ganglion through which the sensoy nerve supply passes is acutely inflamed with round cells and haemorrhage. They traced the degenerative changes along the posterior nerve root into the fibres of the posterior columns of the cord and also along the course of the peripheral sensory nerves down to the fine fibrils in the skin at the site of the eruption. Though the distribution of zoster is segmental, the lesions do not follow the distribution of any one sensory nerve but lesions develop on the skin supplied by all the sensory fibres which pass through the diseased root ganglion.

Zoster is a self limited disease and majority of cases heal without complications. When zoster affects elderly persons, there is severe and persistent neuralgic pain not only during the course of the disease but also the pain, may in some cases continue for months or years after the skin lesions subside. There is yet no satisfactory explanation or treatment for post herpetic neuralgia.

Schamberg (1920) observed that filtered X rays were useful in treating peristent pain of herpes zoster.

Marine (1927) found small doses of filtered X rays applied to the spine helpful in controlling the neuralgic pain associated with herpes zoster.

Stephenson (1928) noted shortening of the course of the disease when the affected nerve roots were treated with filtered X rays.

Foerster (1932) observed that irradiation of spinal region shortened the course of the disease and reduced the severity and extent of the eruption. He further stated that X rays were useful in the treatment of post herpetic neuralgia.

Goldsmith (1936) did not feel that deep X rays exposed over corresponding nerve roots were useful in relieving post herpetic neuralgia.

Volta and Barbiera (1957) obtained excellent results following treatment of zoster with paravertebral X ray therapy.

It is suggested that during the acute phase of eruption radicular para vertebral X ray therapy can be given to the emergent sensory nerve roots daily for 3 days. In cases of persistant post herpetic neuralgia weekly exposures for 3 to4 weeks are advised.

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It has been our experience that elderly patients past the age of 40 or 45 years are very likely to develop post herpetic neuralgia as a complcation of zoster and treatment with analgesics, Vit. B_{12} and even corticosteroids are not very beneficial in relieving the pain. We therefore tried paravertebral radiation therapy to see if post herpetic neuralgia could be prevented and our experiecce is given below.

MATERIAL AND METHODS

Five cases of herpes zoster with active skin lesions and one case of post herpetic neuralgia were selected for this study. The dose given to the involved paravertebral ganglion and one segment above and one segment below it was 100–R of radiation generated at 200 K. V., 15 ma, filtered through 1 m m. Cu at a distance of 50 cms., once a week for 3 to 4 weeks.

OBSERVATIONS

Case No. 1 :— Muslim male aged 70 years was admitted with herpes zoster intercostalis (Left T 4,5) of one week duration, with severe pain not relieved by aspirin, analgin and Vit. B_{12}. Paravertebral X ray therapy was given at weekly intervals for 3 weeks (Total dose 300 R). Pain was considerably reduced a few days after the first exposure; the lesions healed in a week. After the third exposure there was almost no pain. Followed up for 3 months there was no recurrence of pain.

Case No. 2 :— Hindu male aged 56 years was admitted with herpes zoster (Right T 10) of 4 days duration and with severe pain not relieved by routine therapy with anlgesics and Vit. B_{12}. Paravertebral X ray therapy of 100 R each dose was given at weekly intervals for 3 weeks. (Total dose 300 R). The lesions healed in 2 weeks and there was only mild pain at the time of discharge. Seen after 3 months there was no pain.

Case No 3 :— Hindu female aged 60 years was admitted with zoster involving Right C 2, 3, 4 of one week duration There was severe pain not relieved by aspirin and vit B_{12}. She was given paravertebral X ray therapy once a week for 3 weeks (Total dose 300 R). Pain was considerably relieved after second exposure and almost completely relieved after 3rd exposure. Followed up for 6 months there was no recurrence of pain.

Case No. 4 : Hindu female aged 45 years was admitted with zoster intercostalis (Left T 5, 6) of 4 days duration with moderately severe pain not much relieved with routine analgesics and inj B_{12}. Paravertebral X ray therapy was given at weekly intervals for 4 weeks (total dose 400 R). Lesions healed in about 10 days and pain was completely relieved. After 6 months the patient returned with recurrence of pain, though of a mild degree, and on examination there were 3 small hypertrophic scars in the area exposed to X ray therapy. Biopsy revealed only fibrous tissue in mid and deep dermis.

Case No. 5: Hindu female aged 50 years was admitted with zoster involving left T 10. Pain was very severe, not relieved by analgesics and B_{12}. After 3 treatments with paravertebral X ray therapy given at one week's interval pain subsided considerably, and lesions healed in about 2 weeks. Seen after 3 months there was no pain.

Case No. 6: Muslim male aged 53 years was admitted with post herpetic neuralgia with excruciating pain in the distribution of Right C 2 and 3. Aspirin and analgin and B_{12} failed to give any relief from pain. Paravertebral X ray therapy was given each dose 100 R at weekly interval for 4 weeks (Total dose 400 R). There was partial relief from pain. He was put on betamethasone 0.5 mg. t i.d. and there was further relief from pain after two weeks.

DISCUSSION AND CONSLUSIONS

In the above series there were 5 cases of herpes zoster with severe neuralgic pain and active skin lesions and all were past 45 years of age. These patients were most likely to develop post herpetic neuralgia as a complication. When these five cases were given paravertebral X ray therapy, the pain was promptly controlled and none developed post herpetic neuralgia. In the single case who had already developed post herpetic neuralgia X ray therapy produced partial relief from pain and required corticosteriods for further relief. These findings suggest that paravertebral X ray therapy is useful in preventing post herperic neuralgia and mav also help in relieving/reducing pain in cases where this complication had already developed.

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REFERENCES

1. Cipollaro A. C. and Crossland P. M. (1967) X rays and Radium in the treatment of Diseases of the skin. Ed. 5. Page 740-42 Lea and Febiger, Philadelphia.
2. Foerster, H (1932): Arch. Derm. Syph. 25 : 256.
3. Goldsmith, W. N. (1936) Recent advances in Dermatology, Philadelphia. The Blakiston Co.
4. Head and Campbell :-Quoted by Mackenna, R.M.B. and Cohen E.D. in Concise Medical Text books-Dermatology. Ed 1., 1964. Bailliere and Cox, London.
5. Marin, A (1927) :—Quoted by Cipollaro and Corssland in X rays and Radium in the treatment of diseases of the skin Ed. 5., P. 741, 1967. Lea and Febiger, Philadelphia.
6. Schamberg, J. F. (1907) :—Am J. Electro and Radiol 38 : 239.
7. Volta A and Barbaiera, G (1957) quoted by Cipollaro and Crossland 1967.