

INTERNATIONAL JOURNAL OF INSTITUTIONAL PHARMACY AND LIFE SCIENCES

Medical Sciences

Case Report.....!!!

Received: 22-03-2013; Revised; Accepted: 04-11-2013

TUBERCULAR PYO-PNEUMOTHORAX ASSOCIATED WITH HERPES ZOSTER- A CASE REPORT

Dr. Shitij Goel^{*1}, Dr. H M Kansal², Dr. Arun Madan³, Dr. Shelly Goel⁴

1. Associate professor, Dermatology, School of medical Sciences & research, Greater Noida
2. Assistant Professor, Pulmonary medicine, School of medical Sciences & research, Greater Noida
3. Professor and Head, Pulmonary medicine, School of medical Sciences & research, Greater Noida
4. Senior Resident, Dermatology, School of medical Sciences & research, Greater Noida

Keywords:

Herpes Zoster (HZ), Pulmonary
Tuberculosis (TB),
Pyopneumothorax

For Correspondence:

Dr. Shitij Goel

Dermatology, School of
medical Sciences & research,
Sharda university, Greater
Noida. Uttar Pradesh. 201306

E-mail:

goelshitij@rediffmail.com

ABSTRACT

Herpes Zoster (HZ), or shingles, is a common cutaneous viral infection generally involving skin of a single dermatome. Most patients recover from HZ without any complications but in elderly and immuno-compromised cases it leads to various cutaneous, visceral and neurological complications. While neural complications include post herpetic neuralgia, nerve palsies and others uncommon visceral complications include pneumonitis, hepatitis, esophagitis, pericarditis and others. 33 year old male patient, a known case of pulmonary tuberculosis and on anti-tubercular drugs for last 2 months presented with acute right side chest pain and breathing difficulty since last two days. His chest radiograph showed right sided pyo- pneumothorax. Next day local examination revealed slight erythema on right side of chest and back which was diagnosed as Herpes Zoster. This was a very interesting observation as patient may have developed pyo-pneumothorax secondary to HZ.

INTRODUCTION

Herpes Zoster (HZ), or shingles, is a common cutaneous viral infection generally involving skin of a single dermatome. The disease is caused due to reactivation of Varicella Zoster Virus (VZV) which is lying dormant in dorsal root ganglion.^[1] HZ most commonly involves thoracic dermatomes followed by cervical and trigeminal.^[2] Herpes Zoster typically manifests as pre-herpetic prodromal neuralgia followed by eruption of grouped vesicles and bullae on an erythematous base confined to one or two adjacent dermatomes which gradually rupture to form crusts and heal in next 2 to 3 weeks. Most patients recover from HZ without any complications but in elderly and immuno-compromised cases it leads to various cutaneous, visceral and neurological complications. While neural complications include post herpetic neuralgia, nerve palsies and others; visceral complications are pneumonitis, hepatitis, esophagitis, pericarditis and others.^[3] Pulmonary tuberculosis (TB), as we know is an infection of lungs caused by the rod-shaped, non-spore forming and aerobic bacterium *Mycobacterium tuberculosis*. Risk of developing disease after being infected depends upon individual's immunological and non-immunological defenses and level of cell mediated immunity.^[4] Primary pulmonary tuberculosis occurs soon after the initial infection with tubercular bacilli. Post primary tuberculosis, also termed adult type TB may result from endogenous reactivation of distant latent infection or recent infection. Extent of lung parenchymal involvement varies from small infiltrates to extensive cavitation.^[4]

Case Report:

33 year old male patient, a known case of pulmonary tuberculosis and on anti-tubercular drugs for last 2 months presented with acute right side chest pain and breathing difficulty since last two days. Chest radiograph revealed right sided pyo-pneumothorax with right middle lobe lung collapse. Left lung showed heterogeneous shadow in paracardiac region in upper part of lower zone suggestive of tubercular etiology. Intercostal drainage was planned next day to relieve the symptoms. Next day local examination revealed slight erythema on right side of chest and back. Dermatology reference was made where on the characteristic clinical basis of grouped vesicles appearing on the erythematous base, diagnosis of Herpes Zoster was made. Positive Tzanck smear confirmed the diagnosis. As Herpes Zoster is less common at this age investigations including fasting blood sugar, HIV, Hepatitis B and Hepatitis C were undertaken to rule out immuno-compromised status of the patient. All were normal. Intercostal drainage was deferred for few days. Patient was put on antiviral therapy

i.e. tab. Acyclovir 800mg five times per day. After one week skin lesions as well as pain improved. Antivirals were then stopped. Anti-tubercular drugs were continued along with antivirals throughout.



Figure 1: Chest radiograph showing right sided Pyo-pneumothorax with right middle lobe lung collapse



Figure 2: Herpes Zoster involving right thoracic (T3-T4) dermatome.

DISCUSSION

Incidence of Herpes zoster increases with age and immunocompromized status of the patient. HZ is more common after the age of 60 in healthy individuals. In younger patients it is mainly associated with conditions like HIV, leukemia, renal transplant patients and others. In above patient apart from tuberculosis, no other such condition was associated. Also uncommon was association of Pyopneumothorax of right lung corresponding with right thoracic HZ. Now it has to be understood whether it was a coincidence or they have causal relationship. Cutaneous and neurological complications of HZ are well known and

documented in literature. Though visceral complications like pneumonia, hepatitis, pseudo-obstruction abdomen among others have been reported, causal relationship between them and herpes zoster has been debated.^{[5][6][7][8]} Tribble DR et al have reported cases of colonic pseudo-obstruction as a result of Dermatomal zoster.^[7] Lung involvement with corresponding herpes zoster in a patient has been suggested by Andrews RH and Pek S et al.^{[6][8]} As generally agreed theory, herpes zoster results from reactivation of dormant Varicella zoster in dorsal root ganglion. Immuno-compromised states also predispose to more visceral complications of HZ. Virus is neurotropic and on activation lead to lesions in the skin supplied by that particular nerve.

To relate lung lesion with that dermatome both has to be supplied by same nerve, which is not the case. In this case zoster involved right 3 and 4 thoracic spinal nerves while as we know lungs are supplied by vagus nerve. Both the lungs had tubercular lesions but only right lung developed pyo-pneumothorax. Hence some local herpetic factor is proposed as a cause. Association with Herpes zoster also makes a difference therapeutically as in this case, intercostal drainage was deferred till healing of skin lesions.

CONCLUSION

Authors are of the opinion that such an association can be more than just a coincidence. We couldn't find any similar report of association between Herpes Zoster and Pyopneumothorax in the literature. Hence this interesting association is presented as a rare case.

REFERENCES

1. Habif TP. Clinical Dermatology - A color guide to diagnosis and therapy. 5th edition; 479.
2. Melrick J, Shaw EW, Curnen EC. A virus isolated from patients diagnosed as non-paralytic poliomyelitis or aseptic meningitis. Proc Soc Exp Biol Med: 1949, 71:344-349.
3. Valia RG, Valia AR. IADVL Textbook of Dermatology. 3rd edition; vol 1; pg. 349-351.
4. Longo DL, Kasper DL. Harrison's Principles of Internal Medicine. 18th edition; vol 1; 1342.
5. Murray BJ. Medical complications of herpes zoster in immunocompetent patients. Postgrad Med.; 1987 Jan; 81(1); 229-31.
6. Andrews RH. Pneumonia and bronchial vesiculation associated with herpes zoster. Br. Med j ; 1957 august 17; 2 (5041): 384-386.
7. Tribble D R. Gastrointestinal Visceral Motor Complications of Dermatomal Herpes Zoster: Report of Two Cases. Clinical Infectious Diseases: Vol. 17, No. 3, p. 431-436.
8. Pek S, Gikas P W. Pneumonia due to herpes zoster- report of a case and review of literature. feb 1: 1965: vol. 62: no. 2: 350-358.