Sinobronchial Syndrome and its Treatments

Shogo Awataguchi

E.N.T. Clinic, Tohoku Central Hospital of the Mutual Aid Association of Public School Teachers. Yamagata City 990 Japan

Objective

The sinobronchial syndrome consists of chronic paranasal sinusitis and non-specific chronic infectious bronchial disease such as chronic bronchitis, bronchiectasis and diffuse panbronchiolitis.

The objective of this paper is a review of our clinical studies on the sinobronchial syndrome dealing with its incidence, its onset and its treatments.

Methods and Results

1) Incidence

The incidence during the period of 10 years from 1967 to 1976 of this syndrome in relation to chronic paranasal sinusitis was investigated. The chest investigation of 2,827 patients aged two to 77 years with chronic paranasal sinusitis revealed that the incidence of this syndrome was 5.4%, the highest being 36.9% for age group of two to five years. The incidence during the period of 10 years from 1951 to 1960 of this syndrome in relation to chronic bronchitis and bronchiectasis was investigated. Chronic paranasal sinusitis was found in 79 (91.8%) of 86 cases with chronic bronchitis whose plain chest X-ray film showed bilateral increased hilar shadow and cloudiness of bilateral lower lung fields (Fig.1). And also, chronic paranasal sinusitis was found in 63 (25.8%) of 244 cases with bi- or unilateral bronchiectasis. Recently, the incidence of this syndrome in relation to diffuse panbronchiolitis was investigated and Prof. H. Homma reported that chronic paranasal sinusitis was found in 84.8% of 301 cases with diffuse panbronchiolitis.

2) Onset

The sinobronchial syndrome i.e. chronic paranasal sinusitis and chronic bronchitis or bronchiectasis seemed to occur simultaneously in childhood below 15 years of age, in some cases, below five years of age. This syndrome 1) is induced by severe respiratory infection (bronchopneumonia, viral pneumonia), 2) follows protracted common cold without apparent attack of respiratory infection, 3) is in close association with otitis media, stenosis of Eustachian tube, adenoids and tonsillitis, 4) develops from bronchial asthma in small number of cases, 5) Kartagener's syndrome, immotile cilia syndrome, dysgammaglobulinemia, alpha-antitripsin deficiency, cystic fibrosis, HLABW54 antigen and bare lymphocyte syndrome, etc. predisposes to the development of this syndrome.

3) Treatments

Conservative treatments: Conservative treatments have been used mainly for younger children with this syndrome. Oral administration of proteolytic enzyme, nonsteroid anti-inflammatory agents and antibiotics were indicated for this syndrome. Antibiotics, bronchodilator, mucolytic agents and expectorants were administrated by nebulization. Steroid therapy should be rather withheld for younger children.

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25 cases of children with this syndrome were treated by conservative treatments. Symptoms of nasal and bronchial disorder gradually diminished. After conservative treatments for three months, on X-ray film, shadow of sinuses clarified in 17 (Fig. 2), whereas, cloudiness in bilateral lower lung fields was unchanged in 19 of 25 cases.

Surgery: Up to the present, 87 cases of adolescent and adult patients with this syndrome have been treated by double or triple combinations of bilateral sinectomy, lobectomy or lung resection and conservative treatments. The results of follow-up for more than five years of the courses of 87 cases indicated that the triple combination of bilateral sinectomy and/or polypotomy, lobectomy or lung resection and conservative treatments was effective in 12 (85.7%) out of 14 cases with bilateral sinusitis and unilateral bronchiectasis. However, in nearly all cases with bilateral sinusitis and bilateral bronchial lesions, lobectomy or lung resection seemed to be contraindicated.

Treatments of middle aged and elderly patients with this syndrome: Recently, 17 cases of middle aged and elderly patients with this syndrome have been treated. Eight of 17 had previously undergone bilateral sinectomy and were referred to our hospital for treatment of recurrent sinusitis with polyposis. Six of the eight underwent bilateral sinectomy and polypotomy without recurrence, but one with repeated recurrences of polyp after removal. The remaining one is undergoing conservative treatments. Of the other seven cases, three underwent bilateral sinectomy, three bilateral sinectomy and polypotomy, and one bilateral polypotomy with success despite severe dyspnea. So far, there has been no recurrence in the seven cases. Additional two cases have had severe hypoxemia and conservative treatments were the only alternative.

Conclusion

The sinobronchial syndrome is considered as the chronic infectious disorder of all the air way. The hereditary dispositions such as exemplified by Kartagener's syndrome and immunodeficiency can also be mentioned as a possible etiologic factor. In the upper air way, the treatment of the ethmoidal sinusitis with polyposis is more important than that of the maxillary sinusitis.

References


Fig. 1. M.K. 7y. male
Plane chest X-ray film shows increased bilateral hilar shadow and cloudiness of bilateral lower lung fields.

Fig. 2. U.T. 4y. male
Waters' view shows opacity of bilateral sinuses prior to conservative treatment (upper). Shadow of sinuses clarified by 3 months' conservative treatment (lower).