To the Editor:

In an editorial entitled "P<sub>1</sub> Blood Group, Pigeon Antigens, and Respiratory Disease" in the December 1976 issue (Chest 70:694, 1976), I suggested that individuals without the P<sub>1</sub> antigen (P<sub>1</sub>-blood phenotype) may have a greater risk of respiratory disease and that this hypothesis should be tested among individuals selected for respiratory disease, rather than for handling of birds. In their reply to that editorial, Radermecker and Bruwier have tried to test this hypothesis by studying pigeon breeders who (unlike the previous study by Radermecker et al<sup>1</sup>) were not selected for respiratory disease. The results of the present study by Radermecker and Bruwier indicate that 18 percent (ten) of 56 P<sub>1</sub>-negative pigeon breeders had anti-P<sub>1</sub> antibody and that the proportion with precipitins to pigeon serum was nearly identical in P<sub>1</sub>-positive (13 percent [27/212]) and in P<sub>1</sub>-negative (10 percent [9/56]) individuals. Furthermore, Radermecker and Bruwier observed that pulmonary disease was equally reported among P<sub>1</sub>-positive and P<sub>1</sub>-negative individuals. These investigators concluded that the P<sub>1</sub> blood phenotype does not play a role in the occurrence of respiratory complaints among pigeon breeders.

It is of interest to note that the newly reported data, which are based on unselected pigeon breeders, are in disagreement with the original data of Radermecker et al<sup>1</sup>, which were biased toward significant pulmonary disease (since the breeders studied were ascertained through a respiratory disease clinic<sup>1</sup>). Although the incidence of P<sub>1</sub>-negative breeders was essentially identical in the original series (23 percent) and in the new unselected series (21 percent [56/268]), the incidences of anti-P<sub>1</sub> antibody and of precipitins to pigeon serum are significantly lower among pigeon breeders in the unselected series, when compared to the original series<sup>1</sup> (anti-P<sub>1</sub> antibody, x<sup>2</sup> [Yates] = 2.74 and P < 0.05 [one-tailed] precipitins, x<sup>2</sup> [Yates] = 5.43 and P < 0.01 [one-tailed]). The decreased incidence of antibodies to the P<sub>1</sub> antigen and pigeon serum among the breeders in the unselected series suggests a lesser degree of immunization and less respiratory exposure to antigen in the newly studied group. In addition, although the individuals studied were questioned with regard to respiratory disease, it was not reported if any had respiratory complaints sufficiently severe to require attendance at a respiratory disease clinic. Thus, although Radermecker and Bruwier have found an equal incidence of "respiratory disease" among P<sub>1</sub>-positive and P<sub>1</sub>-negative individuals in the present series, it is not clear whether there is a difference in the degree of severity between the breeders in the unselected series and the original one.<sup>1</sup>

The current study of Radermecker and Bruwier does not directly itself to the question raised originally in my editorial, which is the possible relationship between the P<sub>1</sub>-negative phenotype and significant respiratory disease, but rather asks the following questions: (1) are unselected pigeon breeders as immunized as those selected for respiratory disease; and (2) does the P<sub>1</sub> blood phenotype play a role? The answer appears to be that unselected pigeon breeders are not as immunized as those selected by attendance at a respiratory disease clinic.

The original hypothesis, as stated previously, can only be tested by studying individuals selected for specific respiratory disease and matched to suitable controls, and not by studying individuals with vaguely defined clinical conditions. An individual attending a respiratory disease clinic can be expected to have more severe respiratory disease than a person with respiratory complaints who does not attend a clinic.

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REFERENCE


Treatment of Pulmonary Sarcoidosis

To the Editor:

I agree with DeRemee's<sup>1</sup> two basic contentions regarding treatment of sarcoidosis. These are as follows: (1) patients requiring treatment with corticosteroids should be treated regardless of the presence or absence of symptoms, since the latter may be a very late manifestation of pulmonary disability; and (2) treatment with corticosteroids should be given as long as is necessary to control the disease, which is usually a period of several years. I<sup>2,3</sup> have, in fact, emphasized these points myself, specifically calling attention to the fact that patients with even severe pulmonary restrictive functional impairment often fail to complain of dyspnea and should be treated with corticosteroids even if they are asymptomatic, since analysis of the results indicates some benefit from therapy with steroids, particularly if given early.

Nevertheless, I believe that both the decision as to treatment and the regulation of such treatment in sarcoidosis must be based upon pulmonary function, rather than radiologic findings; for example, DeRemee<sup>1</sup> recommends treatment for all patients with pulmonary parenchymal lesions seen radiologically (stage 2 and 3) which do not clear in a short period. In fact, in our long-term follow-up study of 86 patients with such radiologic lesions, 36 had only mild impairment of pulmonary function (both vital capacity and diffusing capacity better than 65 percent of predicted). Only 11 (that is, less than one-third) of these had major functional worsening on follow-up (change of over 15 percent in either measurement). All but three of these 11 who worsened could be detected, since they had evidence of progressive sarcoidosis with new pulmonary or extra-pulmonary lesions, or both.

Thus, a total of 25 patients in our series had long-
The need for cost studies like the one presented has recently been emphasized\(^4\) in a study dealing with the cost of cardiac pacing. The data presented can be useful in predicting repercussions on our system for the delivery of health care. All patients included in this study were private patients, as opposed to being either veterans or welfare recipients. Similar charges are generated for welfare patients. The basic difference between private and welfare patients is the source of payments. In the group reported here, collections were at least 90 percent of the charges. All had insurance or independent means to cover the expenses. Professional collection was approximately 90 percent; collection by the hospital was close to 100 percent. Only 20 patients were reviewed in order to present a report reflecting a short period, since cost is continuously changing.

No account was kept on the patients' loss of income during illness, but a general assessment was made as far as potential for rehabilitation. At the end of a six-month follow-up period, all of the patients, except one individual previously retired, were back to work, 12 on a part-time basis and seven full time. Ten patients returned to their previous or similar jobs. Nine changed to a different and less demanding job.

In a recent review, Mundth and Austen\(^5\) stated that the cost for this type of surgery is $10,000 per patient. This figure falls far short of the costs uncovered by the present study and highlights the need for more studies in this area.

The fee charged by the hospital, which was 72 percent of the total cost, accounted for the greatest percentage of the total cost. The professional fees of surgeons, anesthesiologists, and cardiologists made up the remaining 28 percent. The surgeons' fees were related to the number of grafts, the anesthesiologists' fees to the duration of the operation, and the cardiologists' fees to the number of visits while the patient was hospitalized and a fixed fee for catheterization.

This study only addresses itself to the so-called "direct cost," which includes charges by the hospital and professional fees. If the average cost of $13,949 is multiplied by 70,000 operations per year, one arrives at the figure of $976,430,000, which represents the total cost in the present system for delivery of health care. Considering the potential number of patients who can benefit from this surgery, the cost would run into the billions.

This study attempts to provide information on the cost of coronary revascularization. It is not intended as a criticism of the high cost of medical care. It reflects the cost of coronary revascularization in our medical center, but the data could be applied to other areas of the country if regional differences in cost are considered.

In summary, the average charge by the hospital per patient was $10,103, and the professional fees were $3,826 (including fees of surgeons, cardiologists, and anesthesiologists). The charge by the hospital was 72 percent of the total cost, and 28 percent was professional fees. The information made available in this study could be utilized in the future to assess the impact of this surgery on the total system for delivery of health care and the cost to the public, and perhaps it could serve as a guide to reduction of costs.

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