Clinical Notes

Ear Piercing and Hepatitis
Nonsterile Instruments for Ear Piercing and the Subsequent Onset of Viral Hepatitis

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IN February 1973, the mother of a girl who had her ear lobes pierced in a jewelry store complained that the jeweler had used soiled instruments. This was investigated, and the jeweler was found to be using blood-stained instruments. He reported that the instruments were soaked in a 70% alcohol solution between procedures. He stated that he had done "many hundreds" without incident. However, 70% alcohol solutions do not destroy hepatitis virus.

To evaluate the possibility of transmission of viral hepatitis by inadequately sterilized, earlobe-piercing instruments, case reports of viral hepatitis were examined for clues.

A review of 702 cases of viral hepatitis reported in Seattle and King County in 1972 disclosed that 48 cases had occurred in women 12 to 23 years of age who had no known exposure to sources of viral hepatitis. Each of these 48 women was interviewed by telephone to determine if her earlobes had been pierced at a time compatible with the incubation period for infectious or serum hepatitis.

Seven women reported that they had their earlobes pierced before the onset of their disease. The interval between the procedure and the onset of jaundice varied from several weeks to six months and six days. Because this frequency appeared excessive, a control group was selected for comparison.

One hundred young women were surveyed consecutively as they visited the health department family planning clinic. This group was comparable in age to the hepatitis group. The mean age was 18.9 years, compared with 16.5 years for the hepatitis group. Only one woman in this group was found to have had her earlobes pierced within the previous seven months.

Seven of 48 (15%) young women with viral hepatitis had acquired the disease following earlobe piercing. The interval was consistent with the incubation period of viral hepatitis and was compared to an expected frequency of 1% in the control group. This incidence (P<.001) suggests that the disease was contracted from the inadequately sterilized instruments used in the procedure. Furthermore, two of the girls in the hepatitis group had their earlobes pierced at the same establishment. There are approximately 150 jewelers in King County and, in addition, a number of physicians also pierce ears. The odds against the association between this procedure and hepatitis being due to chance alone appear rather great.

An incidental finding was that some physicians are still using "cold sterilization" with benzalkonium (Zephiran) chloride solution for instruments used in minor surgery (including earlobe piercing). This solution, of course, does not kill hepatitis virus.

Health departments should begin surveillance for cases of viral hepatitis spread by use of nonsterile instruments in earlobe piercing. Physicians and jewelers in the community should be advised to sterilize ear-piercing equipment by autoclaving at 121 C for 15 minutes or by boiling for 20 minutes, or by other means that are known to destroy hepatitis virus. Disposable instruments may also be recommended.

It seems likely that this procedure may be an important means of transmission of serum and infectious hepatitis both in the United States and elsewhere. A health ordinance may be advisable to regulate and license this procedure when it is performed by lay persons.

Nonperfusion of One Lung Secondary to Improperly Positioned Endotracheal Tube

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UNILATERAL absence of pulmonary blood flow as demonstrated by particulate-perfusion lung-imaging techniques is a well-recognized phenomenon. Multiple causes have been described, including bronchial occlusion secondary to bronchogenic carcinoma and foreign-body inhalation. Bronchial obstruction with resulting hypoventilation has been shown to decrease promptly pulmonary blood flow. To our knowledge, however, the effects of acute bronchial obstruction from an improperly positioned endotracheal tube, have not been described previously. This report documents such a case and demonstrates the reversibility of this phenomenon.

Report of a Case

A 76-year-old patient was referred to the Nuclear Medicine Laboratory for perfusion lung imaging because of suspected pulmonary emboli. Approximately three hours before the study, he had experienced increasing dyspnea. An endotracheal tube had been inserted. After 2 milliliters of macroaggregated serum albumin labeled with technetium 99m was administered in-