Studies have been made by a number of authors on the coincidence specific substances in the secreted fluid, body fluids, and various organs other than the blood cells with the blood group substance in the same individual. The same situation was recently shown in the detailed study of the ovarian cyst content by Morgan et al. (1950),\textsuperscript{1} (1952).\textsuperscript{2} According to their chemical analysis of its substance, the A-type substance is a dextrorotatory mucoid or polysaccharide-amino-acid complex. Based on examinations of A- and O-type substances in 130 cysts, they found a coincidence of the secretor and non-secretor type in the saliva type-substance with those in the cysts. Furthermore, they claim to have found the absence of M-, N-, and Rh-antigens in the cyst.

A certain fraction of the mucoid material obtained from the B-type cyst shows a strong inhibitory reaction for agglutination against the anti-B sera, which arose as a direct result of immunization with human group B substance, but it does relatively inactive with naturally occurring B-agglutinin. These authors believe, as the reason of this phenomenon, that the serological behaviour observed for the B-substances is not related to the agglutinins but is associated in some way with the normal or the immune character of the agglutinin. Examining 6 similar cases in Japan, M. Watanabe (1953)\textsuperscript{3} reported a finding of weak inhibitory phenomenon in 4 of the cases. H. Kobayashi (1953)\textsuperscript{4} claimed that he found, in the case of the secretor type, a large amount of type substance is present in the carbohydrate fraction of the cyst and, although small in quantity, the type-substance is also found in the lipoid and protein fractions.

In our present study of various types of cyst, consisting of 41 cases where the contents are either pseudomucin or serous; they were divided into secretory and non-secretory types according to the presence or absence of the type substance. The type-substance was analyzed first into partial antigens and then classified into chemical fractions and these were finally examined in relation to the type-substance found in the saliva. According to H. Miyakoshi (1951)\textsuperscript{5} there are those who have a type specific agglutinin in the saliva, called secretors (v) and those who have no such agglutinin.
called non-secretors (V), and the latter are genetically dominant over the former. We have made studies to find if a similar genetic situation exists in the cyst content and obtained the following results. By means of the absorption of the type-specific agglutinins, and the type-specific precipitation reaction, the cyst contents were classifiable into secretory and non-secretory types. The two types found by us coincided completely with those found by testing saliva. Existence of partial antigens was examined next. In cysts of the secretory-type, all of the partial antigens are found, whereas in the cysts of the non-secretory type, partial antigens of the higher order such as A_{III}, B_{III}, and O_{III} are absent. The quantitative relation of the various partial antigens is shown below (Figs. 1, 2, and 3).

**AS type (Secretor)**

\[
\begin{align*}
A_{type} & : (A_{III} > A_{II} = A_{IV} > A_{I}) \ (32:2:2:1) \\
O_{type} & : (O_{III} > O_{II} > O_{I}) \ (64:16:8)
\end{align*}
\]

**As type (Non-secretor)**

\[
\begin{align*}
A_{type} & : (A_{III} > A_{II} = A_{IV}) \ (4:2:2) \\
O_{type} & : (O_{III} > O_{II} > O_{I}) \ (2:1)
\end{align*}
\]
Comparison of the three chemical fractions of the type substances, protein (p), lipoid (l), and carbohydrate (k) indicates in the first place that the antigenicity of these fractions is far stronger in the secretory type than in the non-secretory type and secondly that the partial antigens of the higher order are all found in the three fractions of the secretory type whereas in the non-secretory type the carbohydrate fraction is markedly small in amount (Figs. 4, 5, and 6).

In some of the cysts presence of a type-specific agglutinin corresponding to the blood type of the individual was not provable. The type-specific agglutinin titers range from 1/1 to 1/16.

The agglutination titer of the agglutinin of the cyst fluid is somewhat higher than that of the saliva and it has no bearing on
the secretory or non-secretory type of the substance.

H. Miyakoshi's secretory (v) and non-secretory (V) types, based on antibodies of the V-v system and the presence or absence of agglutinin in the cyst contents, do match completely with the same two types of agglutinin found in the saliva.

References