IgG avidity testing in the diagnosis of primary *Toxoplasma* infections. A. Hassl and H. Aspöck, Clinical Institute of Hygiene, Vienna, Austria.

The detection of specific IgG antibodies with a low avidity to antigens of *Toxoplasma gondii* in serum samples is considered as a proof of an acute primary infection. Inquiring the benefits of avidity testing in the toxoplasmosis screening of pregnant women two questions arose: is an avidity test helpful in clarifying cases with an otherwise indefinite diagnosis, and may it be used for a determination of the duration of the infection?
Based on a commercially available IgG-ELISA (ETI-TOXOK-G, Sorin) we have developed an avidity test system, using a *Toxoplasma* cell lysate as antigen, 6 M urea in ELISA buffer as washing agent, serial, frozen sera from pregnant women with suspected primary infections as samples, and a mathematical model very similar to the original one for the calculation of the avidity indices.

Despite a relatively small number of samples it is evident that the avidity index of the most early IgGs detectable is at least 0.2. The avidity increase is approximately 5 %points per week on an average. The administration of a specific therapy seems to "freeze" the antibody maturation, the weekly avidity increase may then be as low as 0.6 % points. Serial measurements of the avidity indices indicate that the index is more probably following an upwards bent parabola than a straight line.
The avidity assay is a useful tool in toxoplasmosis screening, especially as a confirmatory test and as a decision support in cases of samples containing IgG and IgM in low titres. It is simple in the implementation and may thus replace other, more complicated second line tests in the near future. Yet, the test results are considerably influenced by the set-up of the assay and the quality of the samples. Avidity indices collected in one laboratory can hardly be compared with values from others. This incomparability and the high costs counteract a wide propagation of the avidity assay.