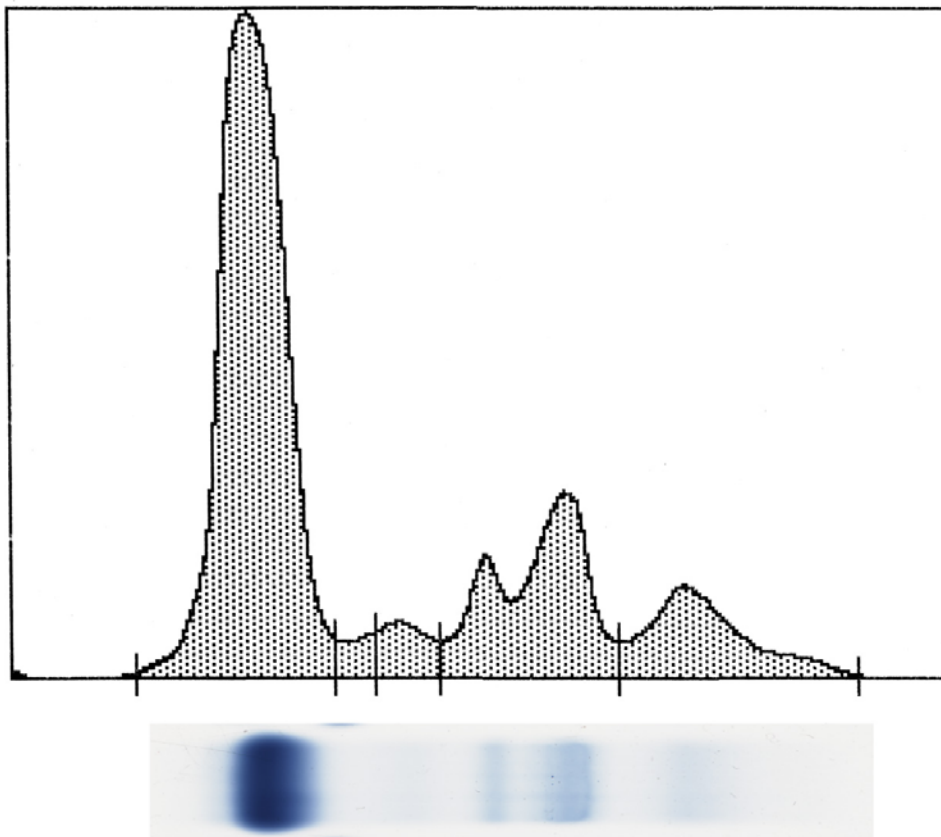


Clinical Case 4: Acute Chlamydophilosis

Normal EPH

This is a normal EPH pattern from an African Grey Parrot. African Grey Parrots often have low or no visible prealbumin fraction. Albumin, in a normal animal, is the predominant fraction as shown here. Albumin can decrease with acute inflammation. Alpha 1 globulins are not commonly found in significant levels in psittacines (but are a major fraction in other avian species). A small alpha 2 fraction is demonstrated below. This fraction can increase non specifically with acute inflammation. In African Greys as well as a few other parrot species, beta globulins are present as a double peak. The gamma globulins shown below conform to the normal polyclonal resting pattern.

In EPH interpretation, the clinical pathologist examines both this densitometer tracing as well as the gel itself (shown underneath the tracing below). The two give a combined impression with the quantitated fractions to lead the pathologist to give the submitting veterinarian the most accurate interpretation possible.



From left to right: albumin, alpha 1, alpha 2, beta, and gamma globulins. The prealbumin fraction is absent in this bird. The A/G ratio is 1.59.

Acute Chlamyophilosis

Classic cases of acute chlamyophilosis almost always produce the most exciting EPH results. As the liver is the tissue where many of the inflammatory proteins are produced, it makes sense that a local infection of a great magnitude may produce a high number of acute mediators. The typical acute pattern which is common to the first 14 days of untreated infection includes a decrease in albumin and moderate to marked increases in alpha 2, beta, and gamma globulins. Alpha 1 globulins, not normally visible in most normal psittacine EPH, are also found to be increased – found as a shoulder off the albumin fraction.

It is notable during this period that the patient will often be seronegative by the *Chlamydia* IFA serology test. This test is geared towards the quantitation of the IgG isotype which is generally produced 10-14 days after infection. It is hypothesized the increase in gamma globulins in this EPH actually reflects those of the IgM isotype. It is this latter isotype which is much better quantitated by the EBA test. [For more reading, check out the June-August 2005 issue of the *AAV Clinical Forum*.]

With positive response to treatment, rather significant changes can be found in the EPH within days. Alpha and beta globulins have very short half lives so quenching of the infectious process will lead to a rapid diminishment in these fractions with recovery of the patient. The albumin will concomitantly increase. The gamma globulin fraction may be elevated for a prolonged period of time depending on when treatment was started during this initial humoral immune response. As the IgM producing cells class switch to IgG, the peak will remain constant and polyclonal. The half life of antibodies is approximately 30 days so decreases will occur slowly. As the patients will remain seropositive on the IgG IFA test, monitoring for the normalization of the A/G ratio will serve as an excellent prognostic tool and gauge of response to treatment.



Acute Chlamydophilosis in a Cockatoo. A/G ratio = 0.13 (normal 1.5-3.6); 8.5% albumin (normal 32-57%), 22% alpha 1 globulins (normal 2-7%), 32% beta globulins (normal 11-25%), and 31% gamma globulins (normal 4-16%).