

Saliva test could offer new way to check immunity

December 14 2016

New research from the University of Birmingham shows that antibody levels in saliva are linked to those in blood serum, suggesting a new method for assessment of protection against bacterial infections.

For a study published in the journal *Biomarkers*, samples of both blood and saliva were taken from 72 healthy adults. Samples were then analysed to test for concentrations of IgG, IgM and IgA antibodies against 12 pneumococcal (Pn) antigens.

The researchers found that in general, higher antibody concentrations in serum were associated with higher concentrations in saliva, with the strongest relationships observed for IgA antibodies.

While these preliminary results cannot yet be used to inform clinical decisions at an individual level, they suggest that measuring antibodies in saliva may have promise in future epidemiological studies relating to vaccination against bacterial infections, particularly in developing countries.

Lead author, Dr Jennifer Heaney from the School of Immunity and Infection at the University of Birmingham, says:

'Protection against [bacterial infection](#) is usually inferred by measuring [antibody levels](#) in [blood serum](#). But taking [blood](#) samples involves a number of logistical considerations and may not always be feasible, especially in developing countries or where children are involved. Saliva

sampling is non-invasive, requires no specialist training or equipment, and may be more cost-effective.

'The suggestion that antibody levels in saliva may be indicative of those in [serum](#) therefore has important implications for markers of immunity and vaccination in many parts of the world. This research highlights the need for larger studies further to investigate the potential of saliva testing as a tool to assess immunity.'

Previous research from the University of Birmingham showed that lower levels of antibodies in saliva are associated with of an elevated risk of mortality, and that [saliva](#) sampling to determine IgA secretion rate has the potential to be used as an indicator of overall health by professionals as part of a general check-up.

More information: Jennifer L.J. Heaney et al, The utility of saliva for the assessment of anti-pneumococcal antibodies: investigation of saliva as a marker of antibody status in serum, *Biomarkers* (2016). [DOI: 10.1080/1354750X.2016.1265009](#)

Provided by University of Birmingham

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