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**Effector functions of IgA independent of bacterial agglutination:
Implications for IgA-mediated immunity at mucosal surfaces.**

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The ability of enteric pathogens like *Salmonella enterica* serovar Typhimurium (S.Typhimurium) to infect the intestinal mucosa depends on the bacteria's ability to attach to and invade the epithelial barrier. It is generally assumed that secretory IgA (SIgA) protects mucosal surfaces by promoting bacterial agglutination and/or preventing bacterial attachment to epithelial surfaces, a process collectively referred to as "immune exclusion". The monoclonal antibody, Sal4, was originally shown to be sufficient to protect otherwise naïve mice from a lethal oral challenge with virulent S.Typhimurium, and was assumed to function by promoting bacterial agglutination. We have uncovered novel and previously unrecognized activities of anti-lipopolysaccharide (LPS) IgA antibodies at subagglutinating concentrations. Bacterial motility is arrested in a time and dose dependent manner, and bacterial invasion of polarized epithelial cell monolayers is inhibited, even when the role motility and attachment in the infection process are bypassed by centrifugation. Preliminary data suggest that bacterial adhesion to the epithelial cells is unchanged. The related species *Shigella* similarly has a type-three secretion system which is inducible. Using *Shigella flexneri* and the anti-LPS monoclonal IgA antibody IgAC5, we determined there was a decrease in the ability of *S. flexneri* to secrete invasin proteins, even under inducing conditions. These combined data suggest anti-LPS antibodies interfere with motility and type-three secretion mediated bacterial invasion of epithelial cells. Although we have yet to uncover the mechanism by which antibodies against LPS result in these activities, the data clearly explain, in part, the protective capacity of antibodies against enteric pathogens.