

### **Innate Immunity in Surgical Patients**

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#### **Abstract**

The innate immune system is the first line of defence against pathogens that acts immediately in order to prevent, control and eliminate infections. This paper reviews some important aspects of innate immune sensing, namely the LPS-TLR signalling pathway and endotoxin tolerance (ET) as a host protective mechanism against uncontrolled immune activation. The fine-tuning of the innate immune response is enabled by miRNAs which constitute an additional level of gene expression regulation between messenger RNA (mRNA) and protein translation. Finally clinical relevance of this complex and dynamic process is pointed out: acute phase reaction, sepsis and the particular case of the splenectomised patient are discussed.

**Key words:** innate immunity, toll-like receptors, endotoxin tolerance, microRNA, acute phase reaction, sepsis, splenectomy

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