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Editorial

Personalized Phage Therapy for the Cancers Caused by *H. pylori*

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Helicobacter pylori is previously called as *Campylobacter pylori* and a gram negative bacterium that usually causes gastric ulcers that finally lead to stomach cancers. Bacteriophages are usually the virus that attacks and kills the bacteria and usually referred as phages hereafter. Normally viruses can cause infection but at certain circumstances those are used to treat the infections.

Viruses that target *H. pylori* can be possible by suitable selection, construction and targeting of the virus but there are ethical concerns to be used for personalized therapy for the treatment of stomach cancers. Recently German society for Infectious diseases group has developed first internationally coordinated guidelines for personalized phage therapy, a treatment for the bacterial infections that harm human body.

Through personalized therapy the gastric ulcers may not progress in to stomach cancers but finding the right virus with great match is an indeterminate task. The selected virus should target only the bacterial strain mentioned but not the normal flora residing over there. Conventional antibiotics can kill broad range of bacteria but the phages are highly specific to the strain it is highly specific if there is a great match too.

But German disease center would not prescribe Personalized phage therapy as an treatment option due to the risks associated with the viral therapy. Usually the virus used should be safe to be used for the treatment. Early studies are not promising due to lack of placebos or controls what we have today to combat over the diseases from typhoid to cholera.

We can isolate a virus from the various sources like drainage water and sewage waste and can engineer accordingly to match to contain receptors present on the *Helicobacter pylori* and we have to pack the necessary engineered genome which facilitates entry, decapsidation and viral multiplication. We can design factors that lyse the bacterium after multiplication instead of entering in to lysogenic relationship with the host bacterium.

Cross reactions with other hosts should be minimized and virulence factors should be removed. Before going for personalized medicine extensive testing and evaluation must be carried out for the efficient treatment.