The Emotional Side of Immune Diseases – an Avenue for Treatment by **Dr Fulvio D'Acquisto**

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Dr. D'Acquisto set the scene by showing a picture, not of the brain, but a section through a cauliflower! He spoke about depression, and how anti-depressants work for a while, then lose their potency, so one ups the dose… Fixing the body is not the whole story – there is a mental component in all disease.

He showed a short film on multiple sclerosis (MS), an unpredictable, often disabling disease of the central nervous system that disrupts the flow of information within the brain, and between the brain and body. What causes it, or might stop it developing?

Studies with mice (laboratory mice, whose normality is a laboratory cage) can give results in weeks rather than months. One group was fed an excess of a protein which affected the development of their blood cells; this led to mental disorder, and to mothers rejecting their pups. Another group of normal mice injected with T-cells from 'crazy' mice became crazy.

Immunity to disease is related to wellbeing. Dr. D'Acquisto said the effectiveness of the immune system is a mirror of one's emotional state. Affective immunology studies the effect of the enhancing wellbeing by, for instance, laughing, sexual arousal, exercise, reading – even isolation. This all causes the body to make the chemicals we need to stay well.

Putting mice in an enriched environment, for instance giving them furry bedding, or frequently stroking and brushing them for a week, reduced their bacterial count and enabled them to quickly suppress disease.

Health is not just passive. Nor is our health entirely dependent on our human genes. We are host to a large number of bugs, mainly bacteria, which have genes their own; and we are dependent on them, particularly the stomach flora which feed us and can save us from pathogens which might otherwise be ingested. And what we feed them matters – bactericides kill the lot.

Mice again – an exchange of some stomach flora between obese and lean mice resulted in the obese becoming slimmer, and the lean fatter. Blood from a young mouse can rejuvenate an older mouse and vice-versa.

An auto-immune disease may be genetically predisposed, but need a trigger to set it off - chemical, infection, etc - any of which could be counteracted by one being in a good state of wellbeing. Auto-immune diseases are more common in women than men – and largely absent in Africa.

We all live together, sometimes tightly packed in a rush hour train, not just with other people but with myriad bugs and noxious chemicals in the atmosphere – and generally stay well. In the countryside, and parts of town, this is more colourfully expressed as "life is shit & shit is life".

In all this complexity of life, natural selection - *per cell* – goes on. Dr. D'Acquisto said Lamarck was on to something when he proposed that: an organism can pass on characteristics that it has acquired during its lifetime to its offspring.