Cirencester Science and Technology Society

The November lecture of the Society was given by our Vice-Chairman, Professor Peter Stoward FRSE, since the advertised speaker was ill. Professor Stoward was the Professor of Histology at the University of Dundee and prior to retirement was Head of the Anatomy and Physiology Department there. His talk was entitled "What a good cup of tea can do".

For some 4 years the speaker has been collaborating with a Japanese colleague on the disease Duchenne Muscular Dystrophy. The pharmaceutical industry has little interest in this condition given the relatively small numbers suffering from the disease.

The speaker said that the condition only occurs in young males in approximately 1 in 3500 live births. It is a progressive muscle condition from the first year leading to the majority of deaths before the late 20s. It causes extensive muscle wasting and is associated with the passage of a defective dystrophin gene from the mother. There appears to be inflammation of the muscle leading to collapse and disintegration.

A literature search shows that Gene Therapy and Stem Cell Replacement have been attempted, but with as yet few positive results. Several large academic groups are receiving continued support from the Medical Research Council for these therapeutic approaches. However, the speaker and his Japanese have investigated a different strategy. They found that the muscle cells in patients with the disease were attacked by oxygen radicals leading to the oxidation of the muscle cell nuclei and the formation of ageing pigment granules, and ultimately a breakdown of the muscle cells. Therefore, a means of reducing the oxidative stress in muscle cells was required. The researchers decided to find out whether a constituent of green tea known as EGCG, which has anti-oxidant properties, would do this. This tea component, being a natural product, is cheap and does not have to undergo the extensive trials required of synthetic drugs.

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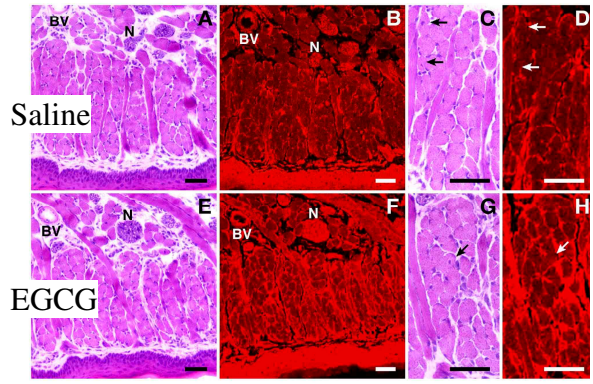

The speaker and his colleague tested mice suffering from Duchenne's condition by giving them a low dose of EGCG 4 times a week for 8 weeks from birth. Autopsy studies revealed that there was less muscle fibre degeneration compared with the control group. There was an increase in muscle growth and a delay in the onset of the disease

Summarising, Professor Stoward said that more research was required, e.g. testing at higher dosages and the use of EGCG to study muscle physiology, before publication of the results. He was visiting Geneva shortly to establish a collaboration with a group doing similar work and estimated that up to £500k would be needed to complete their studies.

The next open lecture of the Society will be on 9th January 2008 at the Royal Agricultural Society at 7:30pm, when Professor Bryan Sykes, Professor of Human Genetics at Oxford University, will talk on "Blood of the Isles" Further details at http://www.cirenscience.org.uk/ or ring Geoff Richards on 01285 651972.