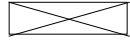


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Secret to not greying may be on the anvil

By Mayuri Phadnis, Pune Mirror | Sep 12, 2014, 02.30 AM IST

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Couple of IISER scientists seems to have found the root cause of ageing — aggregation of damaged or misfolded proteins; further research may find solution to arrest the process

Why do people age or why do some age faster than others is the proverbial question that scientists across the world are struggling to find an answer to. A couple of researchers from Pune's Indian Institute of Science Education and Research (IISER), however, seems to have found the root cause of ageing by exploring at cell level.

Studies were done on E-coli as a model organism (a non-human species that is studied extensively to understand a particular biological phenomenon which provides an insight into the working of other organisms). The research was done by Ulfat Baig as the lead author under the guidance of professor Milind Watve, both from IISER, and professor Bharati Bhadbhade of Abasaheb Garware College. The findings would be published on PLoS One, a peer-reviewed journal, on Friday.

Going by the research, not all organisms are seen to age. Amongst the known ones, hydra, a tiny aquatic organism, does not show any signs of ageing. Even among humans, some are known to age faster and some slower. "According to our research, this ageing happens due to the aggregation of damaged proteins (cluster of misfolded proteins). Some protein molecules get damaged by chance and the cell dumps those in one corner. In E-coli, when the bacteria split, one part has the damaged proteins. As a result, it is found to be slower in further growth and metabolism than the other," said Baig, adding that the damaged proteins grow faster in a nutrient rich environment (highcalorie diet). But, if there is a resource crunch, they take trouble to recycle this waste thereby slowing down their growth.

"Whatever the aging creams and all are doing is all superficial. What we have done is try to get into the root cause of ageing. Mainly the question is why does it not affect all organisms the same way. With probably more research, we may be able to find a solution to this root cause itself," said Milind Watve, who guided the research.

According to Baig, with more research, a solution to arrest ageing may be found in 10 years. "This research is a very new concept for me. Sometimes, due to mutation, bad proteins are produced. These feed on nutrition to multiply which probably expedites ageing. Probably, through research, they may be looking at how to arrest these bad cells," said Geeta Dharmatti, nutritionist and president of Indian Dietetic Association's Pune chapter.

▶▶▶ Bad proteins are formed due to mutation. These feed on nutrition to multiply

- **GEETA DHARMATTI, NUTRIONIST**

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