Dehydrogenase. There are very few studies on the genetic etiology of GA-I from India.
Objective: The objective of this study was to screen Indian patients with GA-I for commonly occurring high and low excretor mutations.
Materials and methods: The study was approved by the institutional Human Ethics Committee. Fifty confirmed GA-I patients from unrelated families were recruited based on clinical, neuroimaging and biochemical profiles. Informed consent was obtained from patients before taking blood spots on the filter paper and screened for mutations, R402W, A421V and A293T (high excretor) and R227P and V400M (low excretor) by RFLP or by direct sequencing of PCR products. Mutations screened by RFLP were further confirmed by sequencing.
Results: Among the patients, 11(22%) were found to have R402W mutation, 7(14%) were homozygous and 5(8%) were heterozygous. One(2%) had F236L and 1(2%) had R313W mutations. Novel mutations, P286S was found in 2(4%), W225X in 1(2%), H403Y in 1(2%), Y295Y in 1(2%) and 1606 G > T at 3' UTR in 1 (2%). Conversely, none of the GA-I patients had A421V, A293T, R227P and V400M mutations. No novel low excretor mutations were found.
Conclusion: From this study, it is evident that R402W and novel P286S mutations were common among GA-I patients. A421V, A293T, R227P and V400M mutations were found to be absent. In conclusion, R402W and P286S are the most prevalent mutations among GA-I patients from India.

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Mixed Topics 2
Familial, autosomal-dominant neurodegenerative parkinsonism with cognitive deterioration spanning five generations in a genetically isolated population of South-Eastern Moravia, Czech Republic

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Abstract
Objective: To obtain more detailed medical history information about the relatives of individuals with confirmed parkinsonism in an isolated region with a rural population in south-eastern Moravia, Czech Republic.
Background: An epidemiological study conducted over four years revealed an increased prevalence of neurodegenerative parkinsonism in a small, isolated region (10 villages, with a combined population of 8664, with approx. 2927 over 50 years of age) of south-eastern Moravia, Czech Republic.
Methods: Detailed genealogical research was performed on the families of all the subjects with confirmed parkinsonism and the pedigrees were compiled; these were further amended on the basis of information obtained through a consecutive door-to-door survey and by means of local municipal and church registers.
Results: In the first stage, three large pedigrees with a familial occurrence of parkinsonism were found; two of them originated in one of the region's villages. In the second stage, these two pedigrees were completed into one large family tree with an apparent autosomal-dominant inheritance pattern of parkinsonism spanning generations from 1840 to the present.
Conclusions: The high prevalence of parkinsonism in the researched area is caused by the familial aggregation of parkinsonism that was found in two large family trees. This familial aggregation of parkinsonism is probably the result of the genetic isolation of the regional population due to the very low migration rate of its inhabitants to neighboring regions in the last two centuries. A detailed genetic and molecular-genetic analysis are currently underway in all probands in whom the parkinsonism symptoms were documented and in all of their blood relatives.
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Mixed Topics 2
Fasting blood glucose levels are associated with white matter hyperintensities' burden in older individuals with and without type 2 diabetes

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Background: The occurrence of white matter hypointensities (WMH) on T2-weighted (FLAIR) MRI scans is widespread in the ageing population and known to be associated with cerebrovascular disease, cardio-metabolic pathology, and increased risk of cognitive decline and dementia. While WMH have been found to be associated with hyperglycaemia in type 2 diabetes (T2D), it is unclear whether fasting blood glucose (FBG) levels in the absence of T2D is associated with higher risk of developing WMH.
Objectives: Investigate the association between FBG and WMH burden in older individuals living in the community.
Material and methods: Participants were 401 individuals (aged 60-66 years, 48.6% female) taking part in a large longitudinal study of ageing. FBG levels and WMH measures were obtained at first assessment. T2D classification was based on self-report or a fasting glucose level > = 7 mmol/l. Associations were tested with multiple regression analyses while controlling for age, sex, education, smoking, and intra-cranial volume. Institutional Review Board approval was granted.
Results: Included participants comprised 276 individuals with glucose in the normal range (<5.6 mmol/l), 86 with elevated FBG but without T2D (5.6-6.9 mmol/l), and 39 with T2D. Results showed that higher FBG was associated with greater WMH burden in the whole sample in the right ($p = 0.02$) but not the left hemisphere and particularly so in the frontal and temporal lobes. Sensitivity analyses indicate that these findings were mostly driven by participants with T2D or impaired FBG levels.
Conclusion: Impaired FBG levels are associated with increased WMH burden in older community-living individuals with or without T2D.

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