Experience with carrier screening for *GBE1* mutations associated with Adult Polyglucosan Body Disease/Glycogen Storage Disease Type IV in the Ashkenazi Jewish and general populations

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The Mount Sinai Genetic Testing Laboratory has been performing carrier screening by next generation sequencing for adult polyglucosan body disease (APBD) for the past year. We tested 2776 individuals who were self-reported to be 100% Ashkenazi Jewish. Fifty eight carriers were detected which included 38 individuals who carried the Ashkenazi Jewish (AJ) *GBE1* founder allele, p.Y329S and 16 carriers of the IVS15+5289_5297delGTGTGGTGG-insTGTTTTTTACATGACAGGT AJ founder allele. Interestingly, we also found two individuals with two other likely pathogenic variants and two individuals with the p.Y329C pathogenic variant which has been previously reported in Ashkenazi individuals. The carrier frequency, therefore, in this group was found to be approximately 1 in 48. Importantly, we found one individual who was homozygous for the p.Y329S variant. For the screenees as a whole, we found the carrier frequency to be approximately 1 in 108 with 19 different pathogenic or likely pathogenic variants detected amongst the 21319 individuals tested. More detailed information about our experience will be presented.