Abstract: P891
Psycho-social impact of predictive genetic testing in hereditary heart diseases (PREDICT Study)

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Introduction: Hereditary heart diseases are most often characterized by autosomal dominant inheritance and delayed cardiac expression. Predictive genetic testing is offered to asymptomatic relatives to allow targeted medical care with early therapeutics in order to reduce the risk of complications. Psychological issues and socio-professional impact of predictive testing are complex and have been poorly studied. The aim of this study was to evaluate the psychological and socio-professional impact of predictive genetic testing in hereditary heart diseases through a prospective and retrospective study.

Patients and methods: This multicentric French study involved 20 expert centers in hereditary heart diseases. We included 517 adult relatives (42.3±16.7 years, 60.6% females) who performed predictive genetic testing (prospective study: N=264, retrospective study: N=253). The opinion and experience were collected via auto-questionnaires, at various moments in the prospective study, with different items and validated scales (STAI: score for anxiety and IES: impact of event).

Results: In the prospective study, family history was characterized by cardiomyopathy (88.4%) and channelopathies (11.6%). The main motivations for performing the test were: “to remove doubt” (65.3%), “for children” (64.0%), “to benefit from medical supervision” (34.9%). A mutation was present in 39.4% of relatives. No regret was expressed after testing (only 2.3% regrets). The result did not lead to a socio-professional change or family relationship change in 60.7%. Among those who had a change, it was perceived as unfavorable for only 3%. A change in socio-professional status and/or family relationship was mainly related to the result of genetic testing (p<0.0001). The level of anxiety (STAI scale) increased before the test result but then decreased and returned to baseline. Subjects with depression history were more likely to develop anxiety at long term after
multivariate analyses (p=0.004). Quite similar results were observed in the retrospective study.

**Conclusions:** Our results show that contrary to a widespread opinion, the medical benefit was not the main motivation for predictive genetic testing. In most cases, no or marginal adverse psychological and socio-professional impact of genetic testing was observed when performed by a team expert in predictive testing. However careful management is required to identify and manage subjects at risk for increased anxiety or socio-professional change.