SUPPLEMENTARY DATA:

Table S1. Parameters * used in univariate analysis to determine predictors of anxiety, Impact of Event Scale scores, and impact of genetic test results.

Age at first appointment
Sex
History of depression or antidepressant treatment (yes versus no)
Seriousness of the familial disease (major cardiac clinical event in the family &)
Subjective representation of risk
State-Trait Anxiety Inventory state score at QP1
Impact of Event Scale score at QP1
Familial disease (HCM *versus* other; and cardiomyopathy *versus* other)
Profession deemed high-risk for someone with the disease expressed
Practice of sports (yes versus no)
Family situation (single versus couple)
Was accompanied at least once in request for predictive genetic testing
Family informed (or not) of the request for predictive genetic testing
Genetic test result (presence or absence of the variant)
Mismatch between the subjective risk and the genetic test result
Development of cardiac symptoms

* Additional parameters related to the structure of the medical teams and consultation process will be analysed separately in a dedicated work

& Cardiac events that were considered: SCD < 50 years, heart failure death < 50 years or Heart transplantation.

Table S2. Global change after predictive genetic testing: details of changes for subjects who reported that the genetic test changed their lives.

Variable	Prospective (*n* = 48) Frequency (%)	Retrospective (*n* = 59) Frequency (%)
The test result enabled you to		
Prepare for the future	13 (27.1%)	12 (20.3%)
Benefit from suitable medical monitoring	9 (18.8%)	27 (45.8%)
Remove doubt	43 (89.6%)	42 (71.2%)
Take part in research	14 (29.2%)	13 (22.0%)
Know whether your children are at risk	24 (50.0%)	36 (61.0%)
Guide your family planning	7 (14.6%)	12 (20.3%)
Respond to a relative's worries	16 (33.3%)	14 (23.7%)

Table S3. Details of the changes in social or professional status and in family relationships for subjects who experienced change.

Variable	Answer	Prospective (*N* = 92)	Retrospective (*N* = 81)
		Frequency (%)	**Frequency (%)**
Did the genetic test result			
Change your professional plans?	No	85/89 (95.5%)	69/81 (85.2%)
	Yes	2/89 (2.2%)	12/81 (14.8%)
	Do not know	2/89 (2.2%)	Not available
Complicate an application for a bank loan?	No	78/87 (89.7%)	66/81 (86.8%)
	Yes	2/87 (2.3%)	10/81 (13.2%)
	Do not know	7/87 (8.0%)	Not available
Modify your sporting activities?	No	58/90 (64.4%)	28/81 (34.6%)
	Yes	28/90 (31.1%)	53/81 (65.4%)
	Do not know	4/90 (4.4%)	Not available
Did the genetic test result change your relationship with			
Your partner?	No	28/68 (41.2%)	18/34 (52.9%)
	Yes	40/68 (58.8%)	16/34 (47.1%)
Your children?	No	21/48 (43.8%)	18/34 (52.9%)
	Yes	27/48 (56.3%)	16/34 (47.1%)
Your relatives with heart disease?	No	18/67 (26.9%)	7/34 (20.6%)
	Yes	49/67 (73.1%)	27/34 (79.4%)
Your relatives with the mutation but not yet ill?	No	26/67 (38.8%)	19/35 (54.3%)
	Yes	41/67 (61.2%)	16/35 (45.7%)
Your relatives without the mutation?	No	30/68 (44.1%)	19/35 (54.3%)
	Yes	38/68 (55.9%)	16/35 (45.7%)
Your relatives who do not know their genetic status?	No	34/67 (50.7%)	20/34 (58.8%)
	Yes	33/67 (49.3%)	14/34 (41.2%)

Table S4. Descriptive analysis of STAI and distress (IES) in HCM patients versus other diseases.

	STAI		IES	
Questionnaire	**HCM**	**Other**	**HCM**	**Other**
Q_P1	30.7 ± 9.9	30.5 ± 9.2	6.8 ± 10.4	7.0 ± 9.1
Q_P2	35.1 ± 12.6	34.4 ± 11.6	8.4 ± 10.7	9.1 ± 10.3
Q_P3	31.1 ± 11.5	28.9 ± 9.0	6.8 ± 10.9	6.2 ± 8.9
Q_R	35.8 ± 11.9	34.7 ± 11.6	10.4 ± 12.8	15.2 ± 14.8

Legend: HCM: hypertrophic cardiomyopathy.

Table S5. Direct comparisons between mutation carriers and non-carriers.

(A) STAI state mean scores.

STAI State Score			
Questionnaire	**Non-Carriers**	**Mutation Carriers**	***p*-Value (Student's *t*-test)**
Q_P1	30.5 ± 9.3	30.6 ± 10.1	0.900
Q_P2	34.9 ± 12.7	34.4 ± 11.2	0.732
Q_P3	28.9 ± 9.9	31.7 ± 11.0	0.036
Q_R	34.8 ± 11.8	35.7 ± 11.7	0.529

(B) Anxiety (STAI State score >35).

Anxiety (STAI State Score >35)			
Questionnaire	**Non-Carriers**	**Mutation Carriers**	***p*-Value (Chi-Square Test)**
Q_P1	41 (28.5 %)	27 (28.7 %)	0.967
Q_P2	55 (40.1 %)	35 (38.5 %)	0.799
Q_P3	29 (19.3 %)	29 (29.3 %)	0.069
Q_R	43 (36.8 %)	49 (44.1 %)	0.256

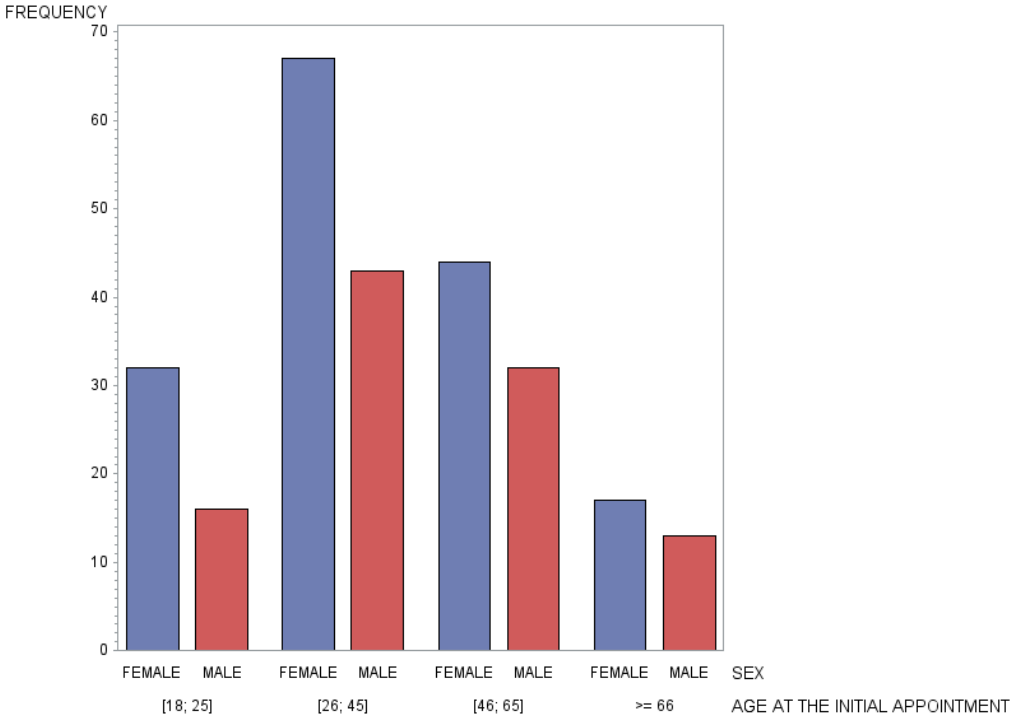
(C) IES mean scores.

IES Score			
Questionnaire	**Non-Carriers**	**Mutation Carriers**	***p*-Value (Student's *t*-test)**
Q_P1	6.8 ± 10.7	7.0 ± 8.1	0.847
Q_P2	9.1 ± 11.1	8.0 ± 9.5	0.456
Q_P3	5.8 ± 9.7	7.6 ± 10.4	0.152
Q_R	10.0 ± 12.4	15.6 ± 15.0	0.003

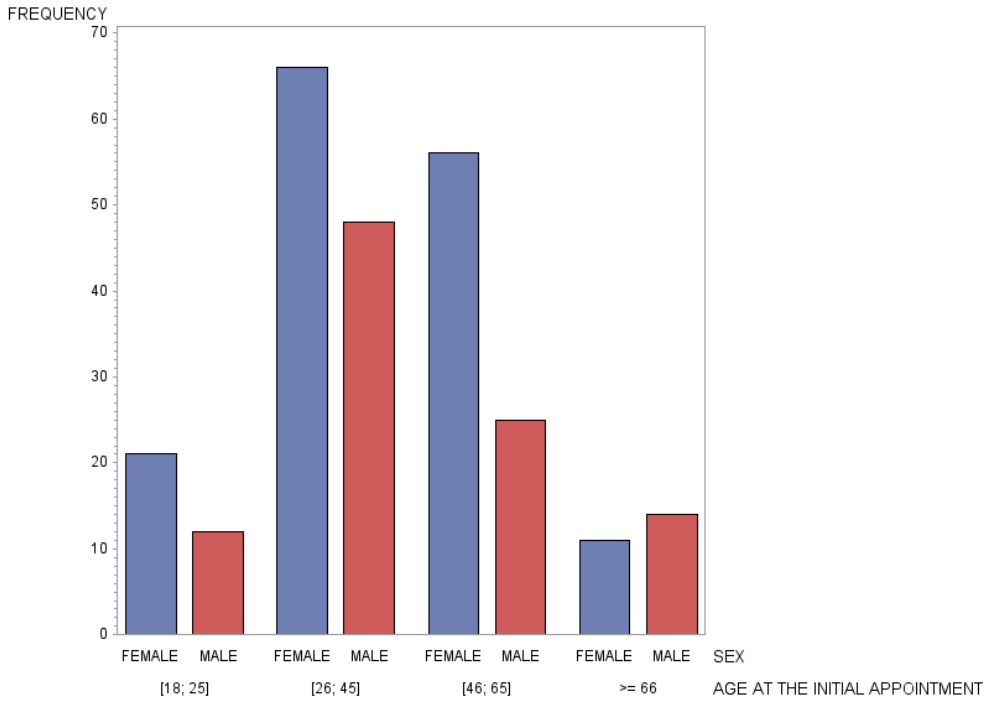
Table S6. Summary of main studies of the psychosocial impact of predictive genetic testing in hereditary heart diseases (restricted to cardiomyopathies and arrhythmias). PGT: predictive genetic testing.

Study	Population	Mixed Phenotype (*Cardiac Disease Expressed or Not Expressed*) or Focused (*Asymptomatic Relatives Without Cardiac Phenotype*)	Longitudinal Design (Pre- and Post-PGT Evaluation) or Only Post-PGT	Study of Predictors of Anxiety or Psychological Distress	Period Between Results Disclosure and Post-PGT Psychosocial Evaluation	Main Finding
Hendriks et al., 2008	N= 77	Mixed population	Yes, longitudinal	No	<18 months	Predictive testing for long QT syndrome consisting of cardiologic testing followed by molecular testing leads to distress, especially in carriers with an uncertain electrocardiogram at first visit. These distress levels return to normal at long term. However, for carriers with an uncertain electrocardiogram, the incidence of clinically relevant distress was high, most probably also caused by the consequences of having the disease.
Christiaans et al., 2009	N= 228	Mixed population	No, only post-PGT	Yes	Mean: 3.3 years	Quality of life and distress were worst in mutation carriers with manifest HCM before DNA testing and best in predictively tested mutation carriers without HCM. Illness and risk perception related variables were major determinants of QoL and distress.
Ingles et al., 2012	N= 54	Mixed population	Yes, longitudinal	No	12 months	No change in health-related quality of life was observed up to 12 months after the result was given in patients and their asymptomatic family members

						undergoing genetic testing for an inherited heart disease. Positive genetic results did not negatively impact patient well-being with the exception of the bodily pain domain of the SF-36.
Hickey et al., 2014	N= 58	Mixed population *(in fact, only with expressed cardiac disease)*	No, only post-PGT	No *(except cardiac symptom or expression)*	18 months	
Wynn et al., 2018	N= 90	Mixed population	No, only post-PGT	No	Mean: 17 months	Patients with positive genetic test results had higher scores for intrusive thoughts, avoidance, and distress when compared to those with negative genetic test results and were also more likely to make or plan to make life changes. 79% of participants reported complete satisfaction with the decision to have genetic testing.
Bordet et al., present study 2020	N= 517	Focused population (*only asymptomatic relatives without cardiac phenotype)*	Yes, longitudinal	Yes	Mean: 4.3 years	Medical benefit was not the main motivation, which emphasises the role of pre/post-test counselling. Only modest negative impacts of PGT were observed when performed by expert teams, but careful management is required in specific categories of subjects (especially history of depression or with high baseline anxiety), whatever the genetic test result. Few regrets about PGT were expressed.



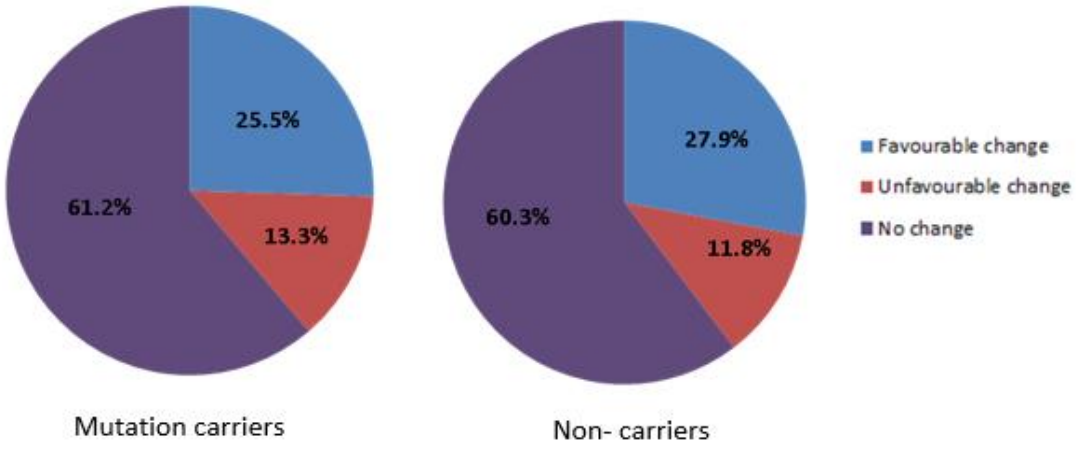
(A) Prospective cohort



(B) Retrospective cohort

Figure S1. Distribution of age of subjects according to the sex in the prospective cohort (**A**) and retrospective cohort (**B**).

A. Prospective cohort



B. Retrospective cohort

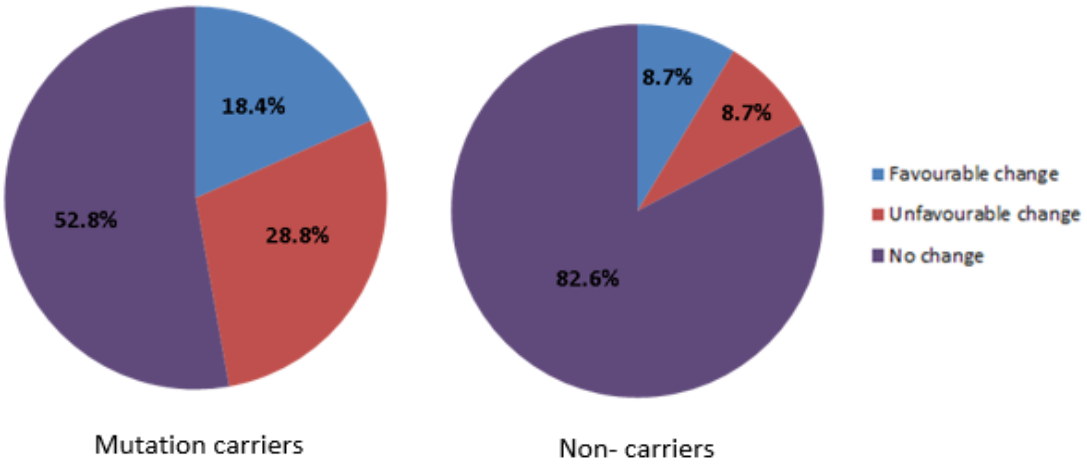


Figure S2. Social or professional changes and/or changes in family relationships in the prospective cohort (**A**) and retrospective cohort (**B**) for mutation carriers and non-carriers.

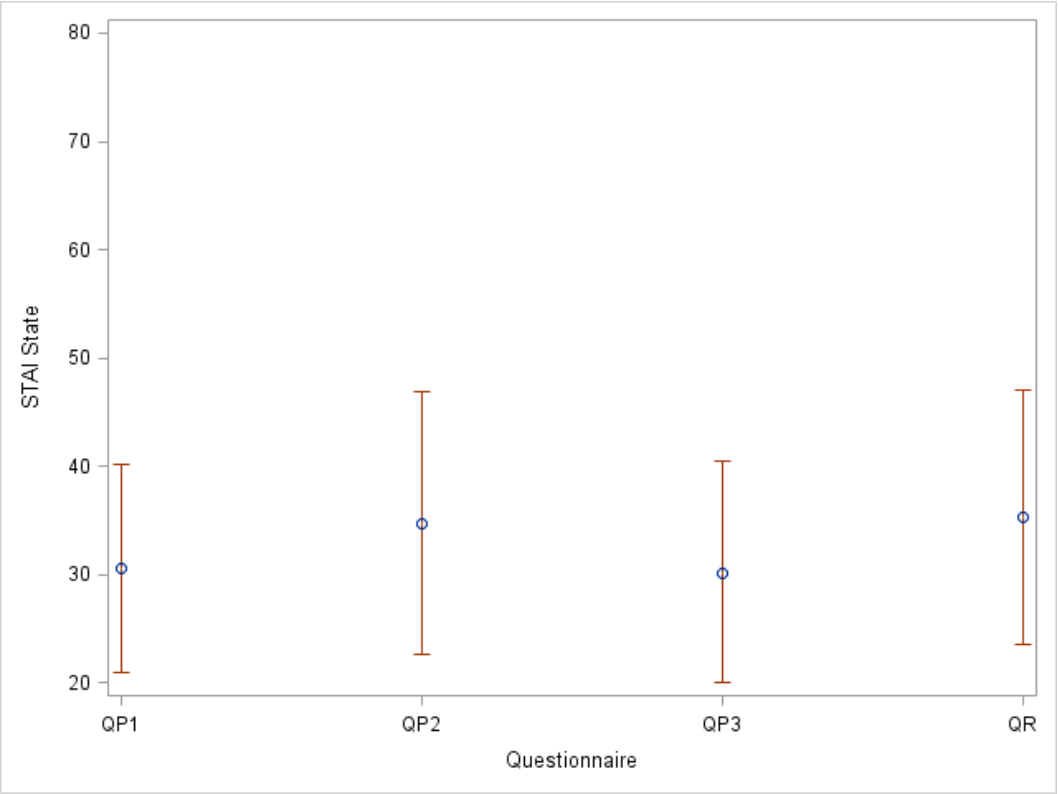


Figure S3. Change in the State-Trait Anxiety Inventory state score at Qp1, Qp2 and Qp3, and the STAI state score at Qr.

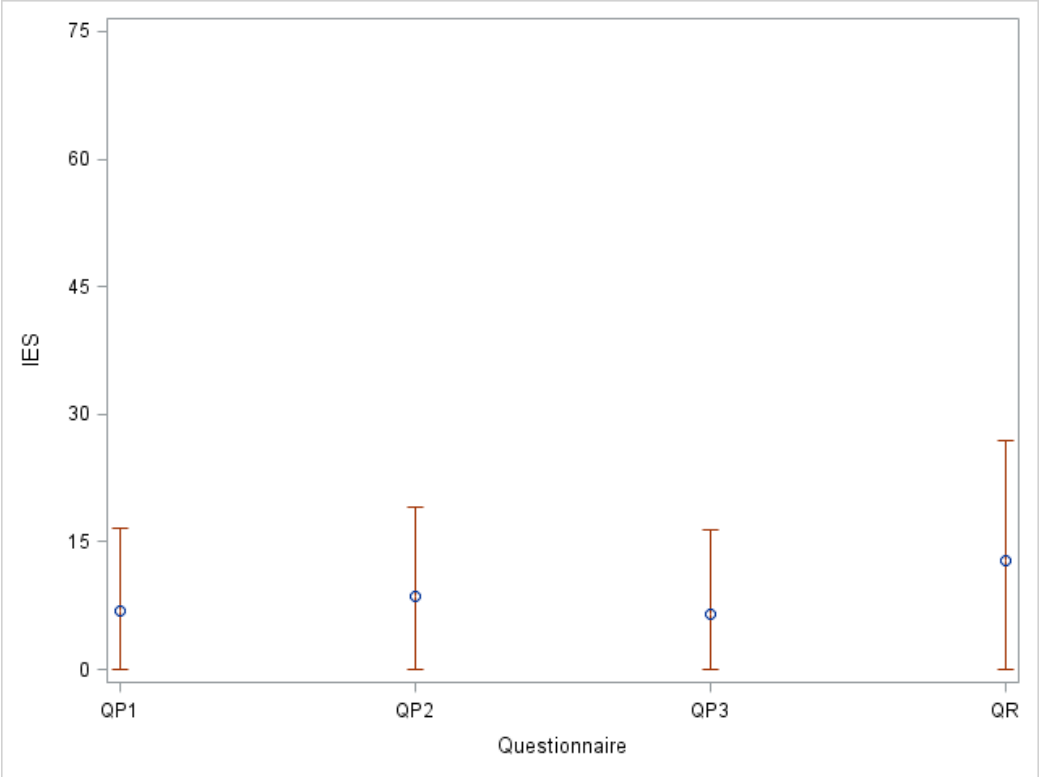


Figure S4. Change in the Impact of Event Scale score at Qp1, Qp2 and Qp3, and the IES score at Qr.