Completeness and reliability of the Norwegian national electrophysiology and ablation registry (AblaNor)

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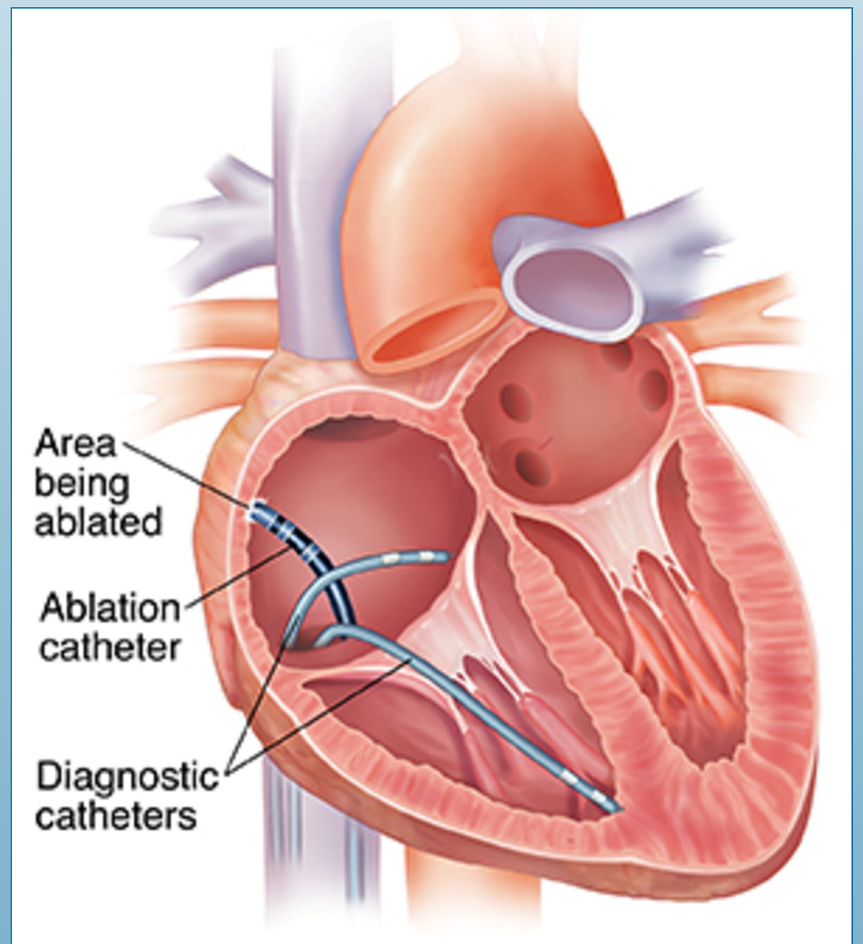

What is cardiac catheter ablation?

Cardiac catheter ablation is a modern procedure for the treatment of various heart rhythm disorders. The groin veins are punctured and catheters introduced to the heart where they can measure electric signals. When areas of diseased tissue are identified, energy can be applied to precicely destroy unwanted tissue (ablation).

In Norway, catheter ablation and electrophysiology (EP) are offered only in five locations in the cities of Oslo, Bergen, Trondheim and Tromsø.

What is AblaNor?

The National registry for Ablation and electrophysiology in Norway (AblaNor) is a recent registry that started data collection in 2019[1] as a nationwide registry of norwegian patients undergoing electrophysiological examination and catheter ablation. Data quality is a prerequisite for the use of registries, and the aim of this study is to assess the completeness and reliability of variables in AblaNor.

	N Number of variables in group	Mean Gwet AC1 in group	Median Gwet AC1 in group	Minimal lower CI boundary for AC1's in group	Maximum higher CI boundary for AC1's in group
Medical history	10	0.94	0.96	0.61	1
Medications prior to procedure	12	0.97	1.0	0.69	1
Patient symptoms*	1	0.92	0.92	0.86	0.97
Procedural data	20	0.96	1	0.40	1
Procedural codes	20	0.98	0.97	0.83	1
Strategy and success	8	0.97	0.96	0.77	1
Complications	15	0.99	1	0.83	1

Table 1: Reliability for groups of variables. N shows number of variables in each group. Mean and median values of all AC1's in each group are calculated. Minimal lower confidence interval border (CI-border) and maximum higher CI-border for the AC1's in each group are listed in the two last columns. The group Patient symptoms *contains only one variable; this is an ordinal variable and AC2 is used.*

Methods

National coverage was assessed by comparing EP-patients in Norwegian Patient Registry (NPR) to Ablanor patients from 2021. Completeness of Albanor registrations from 2021 was calculated by examining fraction of missing data in key-variables.

To study reliability, 13 dummy patients were invented and distributed to electrophysiologists in all five EP centers. Inter-rater reliability between five ratings was assessed by calculating observed percent agreement (PA), Gwet's first or second order agreement coefficient (AC1, AC2) and Krippendorff's alpha (K alpha) for nominal and ordinal variables.

Discussion and conclusion

National coverage was high (93%) with excellent completeness (99%). Most variables showed excellent (AC1 above 0.80) or good (AC1 0.61-0.80) reliability.

A high national coverage should not be surprising given that registration is compulsory. We believe that the high participation is a reflection of the small and close community of electrophysiologists in Norway, where all centers have been involved in the development of the AblaNor registry. It does remain to be seen if high inter-registrar reliability is reflected in comparable data correctness.

In conclusion, the data in AblaNor shows very good national coverage and completeness of data, with a high degree of reliability for most variables

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Declaration of interest

There are no competing interests.

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