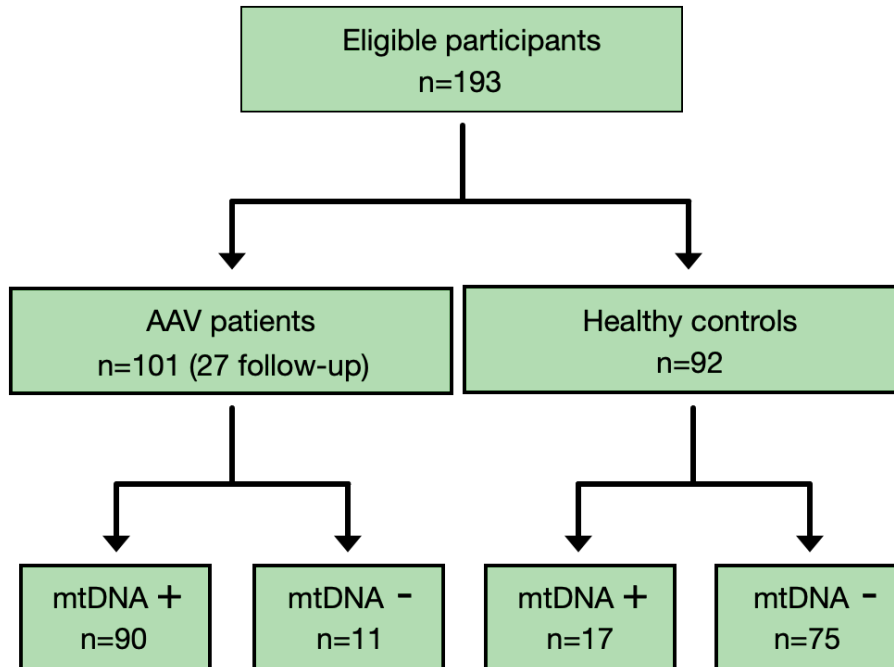


**Table S1.** STARD Checklist for the Reporting of Studies of Diagnostic Accuracy.

Section & Topic	No	Item	Reported on page #
<b>TITLE OR ABSTRACT</b>			
	<b>1</b>	Identification as a study of diagnostic accuracy using at least one measure of accuracy (such as sensitivity, specificity, predictive values, or AUC)	1
<b>ABSTRACT</b>			
	<b>2</b>	Structured summary of study design, methods, results, and conclusions (for specific guidance, see STARD for Abstracts)	3
<b>INTRODUCTION</b>			
	<b>3</b>	Scientific and clinical background, including the intended use and clinical role of the index test	4
	<b>4</b>	Study objectives and hypotheses	4
<b>METHODS</b>			
<i>Study design</i>	<b>5</b>	Whether data collection was planned before the index test and reference standard were performed (prospective study) or after (retrospective study)	5
<i>Participants</i>	<b>6</b>	Eligibility criteria	5
	<b>7</b>	On what basis potentially eligible participants were identified (such as symptoms, results from previous tests, inclusion in registry)	5
	<b>8</b>	Where and when potentially eligible participants were identified (setting, location and dates)	5
	<b>9</b>	Whether participants formed a consecutive, random or convenience series	5
<i>Test methods</i>	<b>10a</b>	Index test, in sufficient detail to allow replication	5
	<b>10b</b>	Reference standard, in sufficient detail to allow replication	6
	<b>11</b>	Rationale for choosing the reference standard (if alternatives exist)	n/a
	<b>12a</b>	Definition of and rationale for test positivity cut-offs or result categories of the index test, distinguishing pre-specified from exploratory	8
	<b>12b</b>	Definition of and rationale for test positivity cut-offs or result categories of the reference standard, distinguishing pre-specified from exploratory	8
	<b>13a</b>	Whether clinical information and reference standard results were available to the performers/readers of the index test	5
	<b>13b</b>	Whether clinical information and index test results were available to the assessors of the reference standard	5
<i>Analysis</i>	<b>14</b>	Methods for estimating or comparing measures of diagnostic accuracy	6
	<b>15</b>	How indeterminate index test or reference standard results were handled	n/a
	<b>16</b>	How missing data on the index test and reference standard were handled	n/a
	<b>17</b>	Any analyses of variability in diagnostic accuracy, distinguishing pre-specified from exploratory	n/a
	<b>18</b>	Intended sample size and how it was determined	6
<b>RESULTS</b>			
<i>Participants</i>	<b>19</b>	Flow of participants, using a diagram	Figure S1
	<b>20</b>	Baseline demographic and clinical characteristics of participants	Table 1
	<b>21a</b>	Distribution of severity of disease in those with the target condition	Table 1
	<b>21b</b>	Distribution of alternative diagnoses in those without the target condition	n/a
	<b>22</b>	Time interval and any clinical interventions between index test and reference standard	n/a
<i>Test results</i>	<b>23</b>	Cross tabulation of the index test results (or their distribution) by the results of the reference standard	Figure S2 Figure S3
	<b>24</b>	Estimates of diagnostic accuracy and their precision (such as 95% confidence intervals)	7
	<b>25</b>	Any adverse events from performing the index test or the reference standard	n/a
<b>DISCUSSION</b>			
	<b>26</b>	Study limitations, including sources of potential bias, statistical uncertainty, and generalisability	11
	<b>27</b>	Implications for practice, including the intended use and clinical role of the index test	11
<b>OTHER INFORMATION</b>			
	<b>28</b>	Registration number and name of registry	12
	<b>29</b>	Where the full study protocol can be accessed	n/a
	<b>30</b>	Sources of funding and other support; role of funders	12

**Figure S1.** Diagram of the participants' study flow. mtDNA+ and mtDNA- correspond to mtDNA copy numbers above and below the calculated cut-off, respectively.



**Figure S2.** Confusion matrix depicting the performance of mtDNA copy number determination as a biomarker for reliable diagnostic assessment of patients with AAV. Values of sensitivity, specificity, accuracy, precision and negative predictive value (NPV) are also included.

		Test-based diagnosis		
		AAV	healthy	
Clinical diagnosis	AAV	90	11	<b>Sensitivity</b> 0.89
	healthy	17	75	<b>Specificity</b> 0.81
		<b>Precision</b> 0.84	<b>NPV</b> 0.87	<b>Accuracy</b> 0.85

**Figure S3.** Confusion matrix depicting the performance of mtDNA copy number determination as a biomarker for reliable diagnostic assessment of disease active AAV patients. Values of sensitivity, specificity, accuracy, precision and negative predictive value (NPV) are also included.

		Test-based diagnosis		
		AAV; BVAS>0	healthy	
Clinical diagnosis	AAV; BVAS>0	20	1	<b>Sensitivity</b> 0.95
	healthy	1	91	<b>Specificity</b> 0.99
		<b>Precision</b> 0.95	<b>NPV</b> 0.99	<b>Accuracy</b> 0.98