

QUESTION

Should advanced imaging techniques in echocardiography and/or cardiac MRI (e.g. strain) vs. standard imaging techniques (e.g. measurement of LVEF, LVMass) be used for identification of at-risk patients with Friedreich ataxia?

POPULATION:	identification of at-risk patients with Friedreich ataxia
INTERVENTION:	advanced imaging techniques in echocardiography and/or cardiac MRI (e.g. strain)
COMPARISON:	standard imaging techniques (e.g. measurement of LVEF, LVMass)
MAIN OUTCOMES:	Mortality; Hospitalisation; Heart failure symptoms;
BACKGROUND:	
CONFLICT OF INTERESTS:	

ASSESSMENT

Problem

Is the problem a priority?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <input type="radio"/> No <input type="radio"/> Probably no <input type="radio"/> Probably yes <input checked="" type="radio"/> Yes <input type="radio"/> Varies <input type="radio"/> Don't know 		<p>The Friedreich's ataxia Clinical Management Guideline Patient and Parent Advisory Panel were interviewed on the consequences, urgency and priority of the monitoring cardiac function. 7 out of 7 indicated the consequences of cardiac function. 4 out of 7 indicated cardiac monitoring was urgent; 2 out of 7 was probably urgent and 1 indicated it was urgent if the person has cardiac symptoms. 4 out of 7 indicated cardiac monitoring was a priority; 2 out of 7 was probably a priority and 1 indicated it was a priority if the person has cardiac symptoms. (July 2020)</p>

Desirable Effects

How substantial are the desirable anticipated effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <input type="radio"/> Trivial <input type="radio"/> Small <input type="radio"/> Moderate <input type="radio"/> Large <input checked="" type="radio"/> Varies <input type="radio"/> Don't know 	<p>A search of three databases (CENTRAL, MEDLINE, EMBASE) identified no randomized, non-randomized controlled, cohort and case studies published from 2014 through to 16 July 2020. No further published evidence meeting the search criteria was identified in the Consensus Clinical Management Guidelines for Friedreich's ataxia, 2014.</p>	<p>Potential for early diagnosis that informs treatment and improves outcome.</p>

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Undesirable Effects
How substantial are the undesirable anticipated effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Large ● Moderate ○ Small ○ Trivial ○ Varies ○ Don't know 	<p>A search of three databases (CENTRAL, MEDLINE, EMBASE) identified no randomized, non-randomized controlled, cohort and case studies published from 2014 through to 16 July 2020. No further published evidence meeting the search criteria was identified in the Consensus Clinical Management Guidelines for Friedreich's ataxia, 2014.</p>	<p>High cost without known benefit</p>

Certainty of evidence
What is the overall certainty of the evidence of effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Very low ○ Low ○ Moderate ○ High ● No included studies 	<p>No published evidence.</p>	

Values
Is there important uncertainty about or variability in how much people value the main outcomes?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS			
<ul style="list-style-type: none"> ○ Important uncertainty or variability ○ Possibly important uncertainty or variability ○ Probably no important uncertainty or variability ● No important uncertainty or variability 	<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 33%;">Outcomes</td> <td style="width: 15%;">Importance</td> <td style="width: 52%;">Certainty of the evidence (GRADE)</td> </tr> </table>	Outcomes	Importance	Certainty of the evidence (GRADE)	
Outcomes	Importance	Certainty of the evidence (GRADE)			

	<table border="1"> <tr> <td>Mortality - not measured</td> <td>CRITICAL^a</td> <td>-</td> </tr> <tr> <td>Hospitalisation - not measured</td> <td>CRITICAL^a</td> <td>-</td> </tr> <tr> <td>Heart failure symptoms - not measured</td> <td>CRITICAL^b</td> <td>-</td> </tr> </table>	Mortality - not measured	CRITICAL ^a	-	Hospitalisation - not measured	CRITICAL ^a	-	Heart failure symptoms - not measured	CRITICAL ^b	-	
Mortality - not measured	CRITICAL ^a	-									
Hospitalisation - not measured	CRITICAL ^a	-									
Heart failure symptoms - not measured	CRITICAL ^b	-									
	<p>a. Identified as critical (4/6), important (1/6) and low importance (1/6) by people with FA and critical by expert authors on this topic.</p> <p>b. Identified as critical (3/6), important (2/6) and low importance (1/6) by people with FA and critical by expert authors on this topic.</p>										

Balance of effects

Does the balance between desirable and undesirable effects favor the intervention or the comparison?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<input type="radio"/> Favors the comparison <input type="radio"/> Probably favors the comparison <input checked="" type="radio"/> Does not favor either the intervention or the comparison <input type="radio"/> Probably favors the intervention <input type="radio"/> Favors the intervention <input type="radio"/> Varies <input type="radio"/> Don't know	No published evidence.	

Acceptability

Is the intervention acceptable to key stakeholders?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<input type="radio"/> No <input type="radio"/> Probably no <input checked="" type="radio"/> Probably yes <input type="radio"/> Yes <input type="radio"/> Varies <input type="radio"/> Don't know	No published evidence.	The Friedreich's ataxia Clinical Management Guideline Patient and Parent Advisory Panel were asked if the intervention was reasonable (weighing up the balance between benefits, harms and costs). 3 out of 3 indicated using advanced imaging techniques in echocardiography and/or cardiac MRI be utilised for identification of people at risk of heart disease was reasonable. (August 2020)

SUMMARY OF JUDGEMENTS

	JUDGEMENT						
PROBLEM	No	Probably no	Probably yes	Yes		Varies	Don't know
DESIRABLE EFFECTS	Trivial	Small	Moderate	Large		Varies	Don't know
UNDESIRABLE EFFECTS	Large	Moderate	Small	Trivial		Varies	Don't know
CERTAINTY OF EVIDENCE	Very low	Low	Moderate	High			No included studies
VALUES	Important uncertainty or variability	Possibly important uncertainty or variability	Probably no important uncertainty or variability	No important uncertainty or variability			
BALANCE OF EFFECTS	Favors the comparison	Probably favors the comparison	Does not favor either the intervention or the comparison	Probably favors the intervention	Favors the intervention	Varies	Don't know
ACCEPTABILITY	No	Probably no	Probably yes	Yes		Varies	Don't know

TYPE OF RECOMMENDATION

Strong recommendation against the intervention ○	Conditional recommendation against the intervention ○	Conditional recommendation for either the intervention or the comparison ●	Conditional recommendation for the intervention ○	Strong recommendation for the intervention ○
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CONCLUSIONS

Recommendation

There is not sufficient evidence to make a recommendation for or against using advanced imaging techniques over standard echocardiography for identifying at-risk individuals with Friedreich ataxia.

Justification

Echocardiography is the standard technique for screening for cardiac disease in FRDA.

Subgroup considerations

None.

Research priorities

Tying imaging findings to patient outcomes.