ICDs – a story of success and challenges
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Objectives

1. Background
   - Why ICDs are used?

2. Patient story
   Ideal situation/ Reality...

3. Importance of assessing prognosis
   Why should this be done electively (whenever possible!!)

4. Impact of prognosis on devices
Feedback

- Everyone has an A4 sheet of paper

- At the end of the session, please write down
  - Three things that you’ve learned
  - One thing that you’d like to know more about

Heart Failure

- It is a common condition
  incidence of ~1/1000 ; prevalence of ~1/100.

- It has a terrible prognosis and a high morbidity.
  >100,000 consultant episodes annually

- It is associated with one of the highest healthcare costs in the NHS.
  Average length of admission 12 days!
  740697 bed days!!

- Its treatable!!
Heart Failure National Audit, 2008-2009

Participants were 86 acute hospitals in England and Wales from March 2008.

Data obtained from first ten patients each month who were discharged or died with primary diagnosis of heart failure (N=6170).

Demographic, diagnostic and therapeutic information recorded.

Survival determined with help from Office of National Statistics.

Mortality, including deaths during index admission, was 34%.

Cleland et al Heart 2011;97:876-886

Severity of Heart Failure
Modes of Death

NYHA II

- CHF: 12%
- Other: 64%
- Sudden Death, n = 103

NYHA III

- CHF: 26%
- Other: 59%
- Sudden Death, n = 103

NYHA IV

- CHF: 33%
- Other: 56%
- Sudden Death, n = 27

Survival with defibrillators (MADIT II)

No. At Risk

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<tr>
<th>Year</th>
<th>Defibrillator</th>
<th>Conventional</th>
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<tr>
<td>0</td>
<td>742</td>
<td>490</td>
</tr>
<tr>
<td>1</td>
<td>502 (0.91)</td>
<td>329 (0.90)</td>
</tr>
<tr>
<td>2</td>
<td>274 (0.94)</td>
<td>170 (0.78)</td>
</tr>
<tr>
<td>3</td>
<td>110 (0.78)</td>
<td>65 (0.69)</td>
</tr>
<tr>
<td>4</td>
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<td>3</td>
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New ICD implant rates in the UK - trends
ICD Deactivation

• As a patient approaches the end of their life, their ICD will need to be deactivated to avoid the delivery of painful shock therapy.
• Ideally the decision to deactivate the shocking function of the ICD should be made in a timely fashion after consultation with the patient and their family.

ICD deactivation – the ideal scenario

• Managed well in ICD clinic and Community HF nurse.
• Referred back into LHCH when pt started to deteriorate.
• Medical review and initial discussion re ICD deactivation with pt and his wife.
• 3/12 Deactivation pathway completed and ICD deactivated.
• 6/12 pt died peacefully at home.
The Reality !!

- 9.30 am telephone call from GP.
- Pt put on LCP the previous evening. Patients daughter just happened to mention that he had an ICD. No paperwork in place.
- Could we attend the patients house the same afternoon. Repeat phone call at 11.30 am- “will it be very painful as pt not expected to last the hour ?”

The Reality

- 5 similar scenarios since Christmas !
- There will always be patients who surprise us and will need deactivation at short notice, however these should be the exception to the rule – not the norm !
Why should we assess prognosis?

Talking to the person next to you, write down three reasons why it could be beneficial to assess prognosis in patients with ICDs

Importance of Assessing Prognosis

- Inform patient/carers about their condition
- Determine suitability for advanced treatment
- Allow advanced care planning
  - Community support, reduced hospitalisation
- Referral to palliative care
- Deactivation of devices
Prognosis and Survival Benefit from ICDs

Retrospective analysis of SCD-HEFT trial of ICD vs Amiodarone for primary prevention of sudden death in HF

Prognosis at randomisation was estimated using Seattle HF score and ranked in quintiles from 1 (best) to 5 (worst)

Observed mortality in the trial was assessed by predicted prognosis

No benefit from ICDs was seen in the group of patients with the worst prognosis

Levy WC et al Circulation 2009;120:835-842

Advanced Care Planning

Identifying entry in late phase three or phase four may present an opportunity to discuss advanced care planning and end-of-life care
Tools for Assessing Prognosis

How should we assess prognosis?

Talking to the person next to you, write down characteristics of an ideal tool with which one might assess prognosis in patients with heart failure.

- Characteristics of ideal prognostic tool
  - Accurate and precise
  - Valid for the population that you’re assessing
  - Useful in daily practice
  - Easy to use

- No available tools are perfect!

- Choice of tool depends on reason why you’re interested in prognosis
Palliative Care Triggers

Predictors of poor prognosis
- Advanced age
- Refractory symptoms despite optimal therapy
- Three hospital admissions in six months with decompensated heart failure
- Dependent for more than three ADL
- Cardiac cachexia
- Resistant hyponatraemia
- Serum albumin less than 25g/l
- Multiple shocks from defibrillator
- Comorbidity with poor prognosis such as cancer or end-stage renal failure

Gold Standards Framework (>2 of...)
- NYHA class III or IV symptoms (breathless at rest or minimal exertion)
- Repeated hospital admissions with heart failure
- Difficult physical or psychological symptoms despite optimal tolerated treatment
- Thought to be in last year of life by care team – the surprise question.

“Would you be surprised if this patient died in the next six to twelve months”

Current state of play...

- Legally ratified document available on CMCSN website..(2008)

- Guidance on who and how to deactivate ICDs

- Up for review soon..
Algorithm 1: Decision to Withdraw Implantable Cardioverter Defibrillator (ICD) Therapy in a Competent Adult Patient

The patient is fitted with an ICD. Patient and those close to him/her are given information (oral and written) on the withdrawal of ICD therapy when nearing the end of life.

The patient is nearing the end of life.

Assessment of patient’s condition, likely prognosis and treatment options undertaken by doctor in charge of patient’s care in consultation with multidisciplinary team.

Assessment of patient’s capacity to make decision about deactivation.

Competent Patient - treatment options including the anticipated benefit and burden of continuing ICD therapy are discussed with him/her.

Patient lacks capacity

Please see Algorithm 2

Patient wishes ICD therapy to continue

Continue therapy until no longer ethical to do so.

Patient consents to withdrawal of ICD therapy

If no longer ethical - seek legal advice

Decision to withdraw ICD therapy recorded on specific proforma by doctor in charge.

Decision communicated throughout the patient’s care team. Suitable handover arrangements put in place for care plans including advice not to resuscitate patient. Personal support given to both patient and those close to him/her.

Hospital cardiac physiology department contacted to arrange deactivation of ICD.

Decision reviewed at appropriate intervals. Care plan reassessed to ensure treatment goals remain appropriate for the patient. Patient consulted throughout and second opinion obtained if patient’s condition does not progress as expected.
Decision to withdraw ICD therapy

• By whom?

“Doctor in charge of patient`s care in consultation with the multidisciplinary team having obtained a competent patient`s consent”.

Doctor who is coordinating any treatment or care the patient is receiving in primary or secondary care area.

Who prompts the decision?

Anyone who is involved in the care of the patients....

We want your opinion!!!
Myths debunked...

• “Patient`s heart will stop if ICD is switched off..”
  The shocking component is separate to the pacing component and it can be switched off without affecting pacing.

• “If I ask about it, its my problem..”
  All of us have the duty to ask the question.
  The Cardiac physiologist and the doctors involved will switch the device off( if appropriate)

• “ Patient has a magnet”
  A magnet is a temporary “stop gap” solution for symptom control and is ONLY to be used in emergencies and with proper counselling.

Myths debunked...

• “ICDs should be switched off at the very very end..”
  Switching an ICD does not KILL the patient the disease process does!!
  The later this decision is made the more traumatic it is for the patient, the family and the physiologist!!!
• Any questions?

• Please complete your feedback forms!
• Thanks for listening