TQT and cardiac risk: Biotechnology & Investment Perspective

Dr Hamish Cameron
Venture Partner
SV Life Sciences Advisers LLP

SV Life Sciences™

Disclosure

- Dr Cameron has worked in the pharmaceutical/biotech industry for over 22 years and in venture investing for 6 years
- SV Life Sciences invests in biotech companies involved in new drug discovery/development and in CROs engaged in TQT studies

QT in the biotech context

- Small, very focused and (hopefully) capital efficient companies
- Discovering candidates to take through development to PoC
- High risk environment – single product/ small portfolio often linked to similar mechanism
- hERG an early screen – activity leads to deselection and reworking of candidate – has assumed predictive power
- Limited information to assess benefit/risk balance
- Biotech success is to take drug forward into phase IIb/III (rare) or partner with pharma company (not common enough!)
- Early QT phase I prolongation introduces the dilemma of risk without benefit
- TQT studies arduous for small companies to accommodate and putative cardiac risk likely to damage chance of partnering

QT from a biotech venture perspective

- Time really is money – ten year VC funds – the later the phase, the higher the cost – so tranched investment with performance milestones
- Investing from a portfolio perspective – stage, geography, sector
- Burden of evidence for a PoC – stage, sector, treatment vs prevention
- hERG and QT prolongation significant issues for investment
- A TQT study could represent 5-10% of entire budget of a small biotech – usually performed when PK, hint of benefit established
- Few (very few) venture backed indications where QT risk manageable – and uncertainty/failure in biotech kills products, companies & jobs
- Risk drives a move to different patients, stages, indications which may go against public health objectives

TQT studies

- Mostly performed by specialist CROs
- CROs have built up procedures, skills and facilities to perform TQT studies
- They adapted to establish this service and will adapt again to deliver any new approved approach
- An entrepreneurial response to changing science and drug regulation

Future thoughts on TQT and cardiac risk

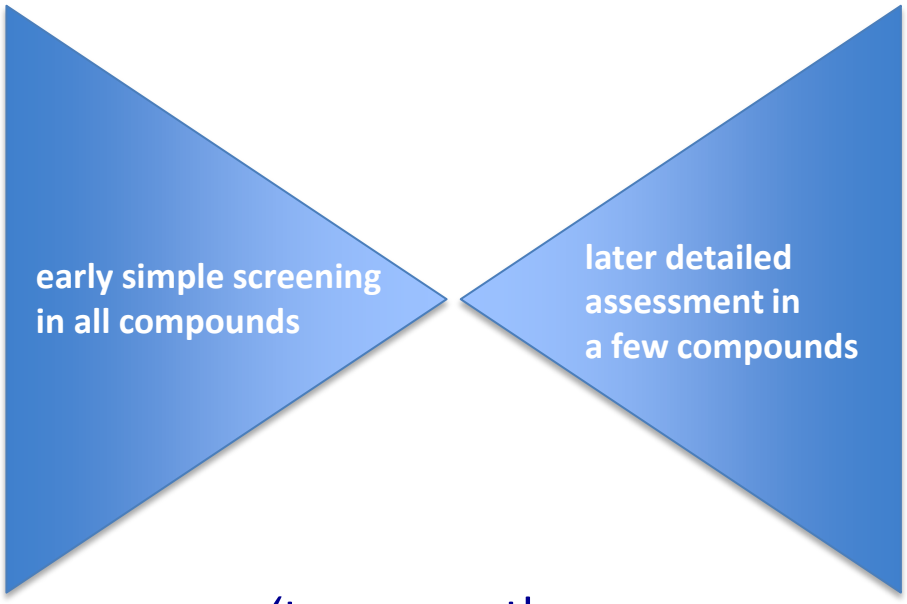
- TQT seems an odd benchmark on “real” risk
  - Not in the target patient group
  - Not in the actual clinical setting
  - Not necessarily at the clinically relevant dose/concentration
  - Not the definitive assessment of pro-arrhythmic potential

AND SO, FOR THE FUTURE

- Reduce uncertainty as far as possible, as early as possible
- Across the biotech sector any QT risk assessment will be performed >100/year – so make it an efficient and effective test battery
- Don’t assess it twice (in both early and mid-stage development)
- Agree it internationally so that the expectations are clear and consistent

QT and cardiac risk

- Do what is best for patients and the creation of new effective, well-tolerated medicines
- Biotech/VCs (and Pharma, and regulators…) will have to balance the dilemma:-



'twas ever thus….