Hennepin County Medical Center

Echocardiographic Evaluatiion of the TASER X26 Probe Deployment into the Chest of Human Volunteers

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Introduction

Several porcine studies have shown that the TASER® X26™ conducted electrical weapon can electrically capture the myocardium when discharged on the thorax.

Methods

A TASER X26 Electronic Control Device (ECD) was probe deployed from a distance of seven-feet into the chest of the subjects. The device was modified to only deliver one single pulse that discharged the cartridge but did not deliver a shock to the subject. The subject was then laid supine on a training mat. The TASER cartridge was disconnected from the original device and connected to a standard TASER X26.

An emergency physician expert in ultrasonography employed a Sonosite device to obtain a parasternal longitudinal view through the anterior leaflet of the mitral valve in the M-mode to determine heart rhythm before, during and after the discharge. The device was discharged for five-seconds.

Subject	Pre-Exposure Heart Rate	Exposure Heart Rate	Post-Exposure Heart Rate	Sinus?
1	83	143	130	Sinus
2	72	78	55	Sinus
3	118	143	91	Sinus
4	82	55	82	Sinus
5	94	76	83	Sinus
6	85	Unable	76	Indeterminant
7	89	107	82	Sinus
8	86	69	85	Sinus
9	90	71	73	Sinus
10	111	120	100	Sinus

Results

In all subjects except one, the rhythm was determined to be the sinus rhythm.

In one subject, the ultrasonographer was unable to get the necessary view due to the motion of the subject before the five-second discharge was complete.

Conclusions

In agreement with two prior studies by these authors, the TASER X26 did not electrically capture the human myocardium when used with probe deployment.

This data is contrary to animal studies in which capture occurred.