CVS-Physiology

Archive

Lecture 1+2

Physiology of cardiac muscle 1+2

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CVS-Physiology Lecture 1+2

Which of the following statements is INCORRECT regarding the automaticity and rhythmicity of the ?heart

.A) Autorhythmicity is myogenic in origin
.B) The sinoatrial (SA) node is the dominant pacemaker of the heart
.C) The atrioventricular (AV) node can generate a nodal rhythm if the SA node fails
.D) The ability to respond to a stimulation is the defining characteristic of automaticity
.E) These properties are intrinsic to cardiac muscle cells

Answer d

Which of the following statements is INCORRECT regarding pacemaker action potentials?

.A) They exhibit a slow diastolic depolarization (pacemaker potential)
.B) They have an unstable resting membrane potential
.C) They rely primarily on calcium influx for the upstroke of the action potential
.D) The "funny current" (If) contributes to the pacemaker potential
.E) They have a stable resting membrane potential

Answer: E

Which of the following statements about the plateau phase of the cardiac action potential is TRUE?

.A) The plateau phase is caused by the Na+ influx
.B) K+ channels remain completely closed during the plateau phase
.C) The plateau phase is absent in ventricular myocytes
.D) Ca2+ inflow equals K+ outflow
.E) The plateau phase causes immediate repolarization

Answer d

Which of the following statements about fast action potential in cardiac muscle is WRONG?

.A) The resting membrane potential is around -90 mV
.B) Depolarization is due to the opening of voltage-gated Na+ channels
.C) The plateau phase is maintained by the influx of Ca++ through L-type channels
.D) Repolarization occurs due to the opening of K+ channels
.E) Depolarization is due to the opening of T-type Ca++ channels

Answer: E