

# Indiana-ACC Poster Competition Abstract

Do **NOT** write outside the boxes. Any text or images outside the boxes **will** be deleted.

Do **NOT** alter this form by deleting parts of it (including this text) or adding new boxes.

Please structure your clinical research abstract using the following headings: \* Background \* Objective \* Methods \* Results (if relevant) \* Conclusion

Please structure your case study abstract using the following headings: \* Introduction/objective \* Case presentation \* Discussion \* Conclusion

**Title:**

**The Prevalence of Fragmented QRS in Sudden Cardiac Death**

**Abstract:** (Your abstract must use Normal style and must fit into the box. You may not alter the size of this )

**Background and Objectives**—Sudden cardiac death (SCD) is a major public health concern with a low probability of survival. The predictive value of current parameters is low and can be conflicting. Fragmented QRS complexes (fQRSs), which include various RSR' patterns, without a typical bundle-branch block have been shown to be markers of altered ventricular depolarization owing to a prior myocardial scar. We postulated that the presence of an fQRS might be an independent predictor of SCD.

**Methods**—All patients with a primary discharge diagnosis of cardiac arrest from 2000-2014 were selected for retrospective chart review. Of these 166 had SCD and 134 had a cardiac arrest from a non-cardiac cause (NC-CA). 345 age and sex matched healthy controls were selected, of these 264 met inclusion criteria and were included in the analysis.

**Results**—fQRS frequency in the SCD, NC-CA, and HC groups was 57.2%, 27.6%, and 22.3% ( $p < .0001$ ) respectively. Patients with fQRS and SCD were more likely to have fQRS in multiple major lead territories compared to the HC group (16.84% vs 1.69%,  $P < 0.0035$ ), and more likely to have fQRS in the anterior and lateral leads whereas 93% of the HCs with fQRS had them exclusively in the inferior leads. Comparing the SCD to HC groups in a multiple logistic regression model, patients with fQRS were more likely to have had SCD with an OR of 3.53 (95% CI= 2.13-5.86,  $p = < 0.0001$ ), and when comparing the SCD group to the NC-CA group patients with fQRS were more likely to have had SCD with an OR of 2.57 (95% CI= 1.36-4.85,  $p = 0.0038$ ).

**Conclusions**—fQRS is substantially higher in patients with SCD. Therefore, fQRS may add incremental value to established risk markers for SCD such as LVEF, QRS duration, and J point elevation. The incremental value of fQRS is yet to be established and is worth further study, possibly in a prospective manner in the future.

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**X** I understand that submission of an abstract constitutes a commitment to be present Indiana-ACC Annual Meeting. I understand that if I cannot be present that my poster will be withdrawn.