Artificial Neural Networks in Acute Coronary Syndrome Screening

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Abstract. In Acute Coronary Syndrome (ACS), early use of correct therapy plays a key role in altering the thrombotic process resulting from plaque rupture, thereby minimizing patient sequels. Indeed, current quality improvement efforts in acute cardiovascular care are focused on closing treatment gaps, so more patients receive evidence-based therapies. Beyond ensuring that effective therapies are administered, attention should also be directed at ensuring that these therapies are given both correctly and safely. Indeed, this work will focus on the development of a diagnosis support system, in terms of its knowledge representation and reasoning procedures, under a formal framework based on Logic Programming, complemented with an approach to computing centered on Artificial Neural Networks, to evaluate ACS predisposing and the respective Degree-of-Confidence that one has on such a happening.

Keywords: Acute Coronary Syndrome, Healthcare, Logic Programming, Knowledge Representation and Reasoning, Artificial Neuronal Networks.

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