

## ATRIAL FIBRILLATION: AN IMPORTANT ISSUE FOR AFRICAN AMERICANS?

Julian Haywood, MD

Los Angeles, California

Atrial fibrillation is currently receiving increased attention from clinicians and from basic and clinical researchers, commensurate with increasing prevalence in the population. Long recognized as the most common arrhythmia and possibly as the most important of the disorders of the heartbeat, it has been described by physiologists as “delirium cordis” and by early investigators as causing a perpetually irregular pulse.<sup>1-3</sup> Rothberg and Winterberg<sup>4</sup> and Lewis<sup>5</sup> confirmed the relationship between the irregular pulse and electrocardiographic abnormalities. Subsequent investigators made physical observations of atrial fibrillation in the beating hearts of humans during open heart surgery; images recorded on film confirmed the presence of ineffectual contractile activity that contrasted with the regular effectual pumping action of the atria during sinus rhythm as recorded with direct atrial leads.<sup>6</sup> Two forms of contractions were observed—large L waves, which were grossly visible, and minute M waves, best seen under high magnification. Such observations provided evidence with which to support or deny the existence of a so-called “circus movement” of electrical stimuli across the two atria as opposed to fixed foci (multiple or single) in one or both atria. More recent observations indicate that individual patients differ and that both mechanisms may be at play in individual cases.<sup>7</sup>

Why the increased attention being focused on atrial fibrillation? The reasons are multiple:

1. New tools and techniques are available for laboratory investigations in animal models centering around electrophysiologic methods but including sophisticated imaging techniques that allow the pathways of conduction to be tracked with great accuracy.<sup>8</sup>
2. New tools and techniques are available to specialist clinicians who are able to locate foci of impulse initiation in humans with great accuracy in the clinical laboratories, which has direct application to effective patient management.<sup>9</sup>
3. The Framingham epidemiologic study helped to demonstrate the clinical relevance of this arrhythmia in terms of population prevalence and the clinical outcomes of morbidity and mortality.<sup>10</sup>
4. The results of large-scale clinical trials have demonstrated the contrasting outcomes between treatment regimen that compare placebo and active treatment.<sup>11</sup>

In this issue of the *Journal of the National Medical Association*, Upshaw<sup>12</sup> reports on the prevalence rates of white as compared with African-American patients in a single hospital patient population and relates these findings to those reported by others, in particular to the Framingham experience, while pointing out the obvious differences between the two sources of data. Of particular interest is the documentation of differing rates of occurrence

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between white and African-American patients, with significantly lower frequency observed in the latter group. This observation is consistent with a previous documentation of lower occurrence rates in African-American patients in a large clinical trial.<sup>13</sup>

What is the meaning of this important observation? As is typical of many important observations, the meaning is not altogether apparent in terms of immediate logical explanation, and, thus, further study is indicated to determine why African Americans might be less prone to develop atrial fibrillation at comparable ages. What is most important, however, is that practitioners recognize that as far as is currently known, all patients who develop atrial fibrillation are at similar risk for poor outcome if appropriate prophylactic therapy is not initiated, most specifically strokes that are either fatal or disabling. Thus recognition that atrial fibrillation is a major risk factor for stroke related to increasing age and associated heart disease, and prompt initiation of therapy to control the ventricular rate, initiate anticoagulation and consider cardioversion according to current guidelines and consider invasive measures in individual cases, is mandatory.

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