2. A characteristic feature of cardiovascular mortality in the diabetic is the female predisposition to dying, equaling or exceeding that observed among males.[26] UGDP findings of fewer than one half as many cardiovascular deaths in females as compared to males in placebo treated diabetics indicated a lack of full expression of the effects of diabetes upon cardiovascular mortality in this group; i.e., the diabetes was milder and/or of shorter duration, or the numbers were too small.

3. Cardiovascular risk factors at baseline were present wtih greater frequency in patients on tolbutamide than in those treated with placebo or with small fixed doses of insulin ("insulin standard"). Although only one factor, blood cholesterol levels equal to or greater than 300 mg./100 ml., reached statistical significance in its greater frequency in tolbutamide treated patients, out of a total of 10 baseline risk factors, nine occurred more often in the tolbutamide treated than in the placebo group. On comparison with "insulin standard" treated patients, seven cardiovascular risk factors were present at baseline with greater frequency in tolbutamide treated patients as compared to three affecting more patients in the "insulin standard" group.

4. The prevalence of coronary heart disease as evidenced by "significant ECG abnormality" at baseline was extremely low in all treatment groups (Table 4), especially in view of the higher frequencies of digitalis usage, of angina pectoris, and of ECG abnormalities in diabetics of comparable age reported in the literature.[26, 33] When the original baseline findings were reported by the UGDP investigators in 1967, different criteria for ECG abnormality were used, so that on the basis of the electrocardiogram, a distinctly greater prevalence of coronary heart disease was reported in the tolbutamide as compared to placebo, insulin standard, or insulin variable groups of patients.[34]

5. The duration of diabetes among patients entering the UGDP study were indeterminate. However, elevated fasting blood glucose and greater increments of post glucose blood levels were found in more tolbutamide treated patients at baseline than in any other treatment group. Therefore, more tolbutamide treated patients had severer and/or longer durations of diabetes mellitus.

6. For an end point (cardiovascular mortality) having an extremely high prevalence in the diabetic population in which a number of risk factors, both

Table 4. *UGDP Study—1967* vs. 1970†*
Selected Baseline Cardiovascular Risk Factors

	PLACEBO		TOLBUTAMIDE		INSULIN STAND.		INSULIN VARIABLE		TOTAL	
	No.	*Per Cent*	*No.*	*Per Cent*	*No.*	*Per Cent*	*No.*	*Per Cent*	*No.*	*Per Cent*
Significant ECG abnormality 1967	30	(15.2)	48	(24.0)	40	(19.3)	39	(19.3)	157	(19.4)
Significant ECG abnormality 1970	6	(3.0)	8	(4.0)	11	(5.3)	8	(4.0)	33	(4.1)
History of digitalis use	9	(4.5)	15	(7.6)	12	(5.8)	10	(5.0)	46	(5.7)
History of angina pectoris	10	(5.0)	14	(7.0)	16	(7.7)	7	(3.5)	47	(5.8)

*Reference 34.
†Reference 1.