ec_report

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Table 1. Baseline Characteristics of the Study Patients According to Treatment Group

In the table below (on the second page), the summary statistics of age and ejection fraction of the patients are presented in the form of "mean ± standard deviation". The median of approximated duration of CHF in months is presented in the next row. The summary statistics of all the other variables in the table are in the form of "count (percentage)".

	DIGOXIN (N = 3397)	PLACEBO (N = 3403)
CHARACTERISTIC		
Age (yr) — mean ± SD	63.4 ± 11.0	63.5 ± 10.8
Ejection fraction — mean ± SD	28.6 ± 8.8	28.4 ± 8.9
Median duration of CHF — mo	17	16
Demographics		
Female sex	755 (22.2)	764 (22.5)
Nonwhite race	487 (14.3)	504 (14.8)
Age>70 yr	906 (26.7)	931 (27.4)
Method of assessing ejection fraction		
Radionuclide ventriculography	2,207 (65.0)	2,184 (64.2)
Two-dimensional echocardiography	1,003 (29.5)	1,022 (30.0)
Contrast angiography	187 (5.5)	197 (5.8)
Cardiothoracic ratio>0.55	1,176 (34.6)	1,170 (34.4)
NYHA class		
I	465 (13.7)	442 (13.0)
II	1,810 (53.3)	1,854 (54.5)
III	1,042 (30.7)	1,039 (30.5)
IV	76 (2.2)	66 (1.9)
No. of signs or symptoms of CHF		
0	39 (1.1)	36 (1.1)
1	80 (2.4)	69 (2.0)
2	240 (7.1)	243 (7.1)
3	315 (9.3)	292 (8.6)
>=4	2,723 (80.2)	2,763 (81.2)
Medical history		
Previous myocardial infarction	2,198 (64.7)	2,221 (65.3)
Current angina	922 (27.1)	899 (26.4)
Diabetes	961 (28.3)	972 (28.6)
Hypertension	1,527 (45.0)	1,557 (45.8)
Previous digoxin use	1,498 (44.1)	1,519 (44.6)
Primary cause of CHF		
Ischemic	2,405 (71.0)	2,398 (70.7)
Nonischemic	983 (29.0)	996 (29.3)
Idiopathic	525 (15.5)	482 (14.2)
Hypertensive	272 (8.0)	311 (9.2)
Other‡	186 (5.5)	203 (6.0)
Concomitant medications		
Diuretics	2,759 (81.2)	2,797 (82.2)
ACE inhibitors	3,197 (94.1)	3,225 (94.8)
Nitrates	1,432 (42.2)	1,466 (43.1)
Other vasodilators	32 (0.9)	50 (1.5)
Daily dose of study medication prescribed		
0.125 mg	593 (17.5)	592 (17.4)
0.250 mg	2,399 (70.6)	2,384 (70.1)
0.375 mg	350 (10.3)	383 (11.3)
0.500 mg	36 (1.1)	32 (0.9)

Comments on the Discrepancies The reproduced Table 1 largely matches the results in the original paper. Some small discrepancies, mostly around 0.1%, are found in certain variables. In general, these differences can potentially be attributed to rounding errors or counts that differ by at most 1. Difference in how the missing values are handled may also explain the discrepancies.

Details of the discrepancies are enumerated below:

(1) In the treatment group (digoxin group), the standard deviation of ejection fraction is calculated to be 8.8%, while in the original paper it was 8.9%. The reproduced result differs by 0.1%, which is not of great concern.

(2) The percentage of non-white patients in the treatment group is calculated to be 14.3% while the value presented in the original paper is 14.4%. This minor difference might be due to a rounding error. A count difference of 1 patient might also cause this difference (i.e. if the original paper assumed the number of non-white patients in the treatment group to be 488 instead of 487, the percentage would be rounded to 14.4% instead of 14.3%).

(3) Similarly, in the treatment group, the percentage of patients with >= 4 signs or symptoms of CHF (congestive heart failure) is calculated to be 80.2% while the paper concluded a value of 80.1%. This small difference might also be caused by either rounding error or count difference of 1 patient.

(4) In the treatment group, the percentage of patients with Nitrates as the concomitant medications is computed to be 42.2% while the value in the paper is 42.1%. Potential causes are similar to those described above.

(5) In the placebo group, the percentage of patients with prescribed daily dose of 0.250 mg is calculated to be 70.1%, while the value in the paper is 70.0%. Potential causes are similar to those described above.

(6) Lastly, in the treatment group, the percentage of patients whose primary cause of CHF is ischemic is computed to be 71.0%, while the value presented in the original paper is 70.8%. This different might be due to the fact that there are 9 missing values in the variable that contains the information about the primary cause of CHF. The percentage of patients having ischemic as their primary cause is 70.8% of all the patients in the treatment group (n = 3397), while they constitute 71.0% of the patients with non-null values (n = 3388) in this variable.

Table 4. Effect of the Study Drug on the Occurrence of Death and Hospitalization due to Worsening Heart Failure

Table 4a. Summary Statistics of the Occurrence of Death and Hospitalization due to Worsening Heart Failure with respect to Selected Variables

In this first part of table 4, the first two columns record the number of percentage of patients with certain conditions in the treatment group and the placebo group. The table values in the first two columns are presented in the form "no. of patients with >= 1 event / no. randomized (percentage)".

The third column records the absolute difference of the computed percentages between the treatment group and the placebo group.

	DIGOXIN	PLACEBO	ABSOLUTE DIFFERENCE
Ejection fraction			
0.25-0.45	613/2270 (27.0)	735/2273 (32.3)	-5.3
<0.25	428/1127 (38.0)	556/1130 (49.2)	-11.2
Previous use of digoxin			
Yes	550/1498 (36.7)	688/1519 (45.3)	-8.6
No	491/1899 (25.9)	603/1884 (32.0)	-6.1
Cause of heart failure			
Ischemic	731/2405 (30.4)	873/2398 (36.4)	-6.0
Nonischemic	306/983 (31.1)	413/996 (41.5)	-10.4
Cardiothoracic ratio			
<=0.55	600/2220 (27.0)	724/2232 (32.4)	-5.4
>0.55	441/1176 (37.5)	567/1170 (48.5)	-11.0
NYHA class			
I or II	601/2275 (26.4)	739/2296 (32.2)	-5.8
III or IV	438/1118 (39.2)	552/1105 (50.0)	-10.8
Overall study population			
	1041/3397 (30.6)	1291/3403 (37.9)	-7.3

The computed summary statistics as well as the absolute differences match exactly with the values in original paper. However, there does to seem to be any uncertainties associated with the absolute difference, which is calculated by "subtracting the percentage of patients with one or more events in the placebo group from the corresponding percentage of patients in the digoxin group" (DIG 1997). It is not clear how the authors of the original paper calculated the 95% confidence interval of the absolute differences.

Table 4b. Risk Ratio with 95% CI

term	estimate	std.error	statistic	p.value	conf.low	conf.high
TRTMTPLACEBO	1.2453702	0.1019268	2.1528483	0.0313306	1.0198546	1.5207531
EJF_PER0.25–0.45	0.7199978	0.0647189	-5.0759053	0.0000004	0.6342235	0.8173725
DIGUSEYes	1.5077817	0.0624333	6.5772503	0.0000000	1.3341208	1.7040479
CHFETIOLNonischemic	0.9050930	0.0690968	-1.4431574	0.1489761	0.7904564	1.0363549
CHESTX>0.55	1.4449116	0.0651323	5.6507756	0.0000000	1.2717465	1.6416555
FUNCTCLSIII or IV	1.5705532	0.0643229	7.0181527	0.0000000	1.3845253	1.7815761
TRTMTPLACEBO:EJF_PER0.25–0.45	0.8959111	0.0867812	-1.2665662	0.2053105	0.7557822	1.0620212
TRTMTPLACEBO:DIGUSEYes	1.0473653	0.0838719	0.5517678	0.5811075	0.8886000	1.2344970
TRTMTPLACEBO:CHFETIOLNonischemic	1.1743692	0.0919311	1.7483866	0.0803971	0.9807374	1.4062308
TRTMTPLACEBO:CHESTX>0.55	1.1153423	0.0871407	1.2527017	0.2103143	0.9402294	1.3230690
TRTMTPLACEBO:FUNCTCLSIII or IV	1.1009888	0.0862789	1.1150900	0.2648119	0.9296987	1.3038379

DeWitt, Peter. "Formatted Summary Statistics and Data Summary Tables with qwraps2." *R Vignettes*. https://cran.r-project.org/web/packages/qwraps2/vignettes/summary-statistics.html.

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# Other Models
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DIG. 1997. "The Effect of Digoxin on Mortality and Morbidity in Patients with Heart Failure." *New England Journal of Medicine* 336 (8): 525–33. https://doi.org/10.1056/NEJM199702203360801.