韓國農村醫學會誌 第2卷 第1號
Korean J. of Rural Med. Vol. 2, No. 1, 1977

韓國 一部 農村住民에 對한 血液學的 考察

——血壓値와 赤血球容積値關係를 中心으로——

順天鄕病院

南澤昇·姜得龍

Ⅰ. 서 론

經濟發展에 따라 우리나라 疾病의 樣相이 많이 달라지고 있다. 그러나 아직도 後進國을 벗어나지 못하고 있으면서도 先進國에서도 볼 수 있는 疾患들과 혼합된 상태라고 볼 수 있다.

農村의 새마을 사업으로 1975년도에 도시의 소득이 농촌의 소득에 뒤지고 있다는 결과를 볼 때 농촌도 멀지 않아 도시와 근사한 질병의 양상을 보이지 않을 것으로 생각하여 건강관리적인 면에서 血壓과 赤血球容積値로 인한 빈혈의 빈도를 종합검토하여 여기 여러분에 지도를 받고자 한다.

1977年 9月부터 10月까지 2個月間에 걸쳐 本病院이 實施한 無醫村地域 住民들을 상대로 검사한 血壓과 赤血球容積値는 다음과 같다.

對象地域은 韓國道路公社 "새마을" 姉妹部落中 濟州道를 除外한 全國 各道의 自然部落이며 住民 13,000餘名中 任意로 來訪한者 總 1559名으로 男子 627名, 女子 932名의 血壓과 Ht.値를 檢査하여 農村에서의 高血壓과 Ht.値에 對한 比較를 하여 農民健康管理에 對한 檢討를 하기로 하였다.

Ⅱ. 檢査 方法

血壓測定은 正常坐位 左上膊部에서 水銀柱式聽診方法으로서 訓練된 正式 看護員이 直接 測定하여 얻은 수치이며 Ht.値는 指尖穿刺로 얻은 毛細管血液을 Heparin 處理 毛細硝子管에 넣고 고무粘土로 막은 後 International 會社 Model ICBM 高速 Microhematocrit 遠心分離器를 使用하여 11,000 r.p.m 5分間 遠心分離하여 判讀用圖表를 利用 Ht.値를 求했다.

Ⅲ. 檢査 結果

1) 血壓値

男子 627名, 女子 932名의 年齡別 性別 平均値(M), 標準偏差(σ), 標準誤差(m)는 別表 1,2와 같다. 여기에서 보는 바와 같이 男子에서는 全體年齡群에서 收縮期性血壓은 70~230mmHg이고, 擴張期性血壓은 50~160mmHg이며, 女子에서도 同一한 條件下에서 前者는 80~230mmHg이며 後者는 40~140mmHg이다.

2) Ht.値

Ht.値에 對한 對象人員도 前者와 同一하며, 그 결과는 表 3과 같다. 여기에서 보는 바와같이 男子에서는 全體年齡群에서 23~50%이며 女子에서는 同一條件하에서 18~50%의 度數分布를 나타내고 있다.

Ⅳ. 考 察

以上 두가지 數値를 가지고 高血壓患者의 Ht.値와 年齡別 性別 貧血의 頻度를 比較하여 農村

Table 1. Blood Pressure in Male in Rural Areas

Age group	Number examined	Systolic Blood Pressure				Diastolic Blood Pressure			
		range	M	σ	m	range	M	σ	m
21—30	106	70—160	125.85	15.91	1.55	50—110	74.15	10.22	0.99
31—40	135	90—180	123.93	14.41	1.24	60—120	77.19	10.77	0.93
41—50	122	90—190	128.44	23.88	2.16	60—130	81.15	14.69	1.33
51—60	145	90—230	128.48	24.67	2.05	50—120	81.24	13.94	1.16
61—70	100	80—200	135.80	27.42	2.74	50—160	81.70	18.81	1.88
Over 70	19	110—220	146.84	24.51	5.62	70—100	83.16	10.03	2.30

Table 2. Blood Pressure in Female in Rural Areas

Age group	Number examined	Systolic Blood Pressure				Diastolic Blood Pressure			
		range	M	σ	m	range	M	σ	m
21—30	123	80—150	117.89	15.69	1.42	40—110	73.33	12.06	1.09
31—40	224	80—200	118.04	16.91	1.13	50—140	75.71	13.00	0.87
41—50	218	80—220	120.92	20.90	1.42	50—130	78.17	12.89	0.87
51—60	220	80—200	122.14	24.24	1.63	40—140	79.55	15.93	1.07
61—70	121	80—230	131.57	28.43	2.58	50—140	84.29	16.87	1.53
Over 70	26	110—180	139.62	22.36	4.38	60—130	86.54	15.73	3.09

Table 3. Hematocrit in Rural Areas

Sex / Age group	Male					Female				
	No. of patients	Ht				No. of patients	Ht			
		range	M	σ	m		range	M	σ	m
21—30	106	33—49	42.72	3.05	0.30	123	28—43	35.40	3.37	0.30
31—40	135	31—50	41.77	3.29	0.28	224	18—44	35.50	3.35	0.22
41—50	122	26—50	41.39	3.86	0.35	218	25—45	35.75	3.18	0.22
51—60	145	30—50	40.12	3.65	0.30	220	26—50	35.84	3.30	0.22
51—70	100	23—50	39.88	3.81	0.38	121	30—45	35.70	3.35	0.30
Over 70	19	35—43	38.47	2.27	0.52	26	30—41	35.08	3.08	0.60

Table 4. Incidence of Anemia in Rural Areas (By Ht. Values)

Sex \ Age group / Standard		21—30	31—40	41—50	51—60	61—70	Over 70
Male	≦41%	27.36%	41.48%	42.62%	62.76%	70%	84.21%
	≦39%	16.98%	25.93%	25.41%	40.69%	38%	73.68%
Female	≦35%	13.90%	48.21%	43.58%	45.91%	47.11%	50%
	≦34%	37.39%	33.93%	32.57%	34.09%	37.19%	46.15%

Table 5. Incidence of Anemia (By Hematocrit Values)

	Staffs of K-bank		Staffs of S-bank		Staffs of Ewha University		Ewha University Students
	Male	Female	Male	Female	Male	Female	
Number examined	1,219	404	1,030	582	177	192	5313
Mean	44.9%	44.6±3.9%	44.9%	39.2±3.4%	44.6%	39.7%	39.8±2.8%
≦34%		3.5%		3.4%		1.6%	2.1%
≦35%		5.2%		7.9%		4.7%	4.9%
≦39%	8%		3.8%		6.2%		
≦41%	15.7%		14.4%		13.9%		

Table 6. Blood Pressure & Hematocrit for Hypertensions in Rural Areas

Sex	Age group	No. of Patients (%)	Systolic Blood Pressure			Diastolic Blood Pressure			Hematocrit		
			M	σ	m	M	σ	m	M	σ	m
Male	21—30	1 (0.9)	150	0	0	100	0	0	45	0	0
	31—40	5 (3.7)	156.50	15.17	6.76	96.0	15.17	6.78	45.0	1.41	0.63
	41—50	22(18.0)	161.36	23.36	4.98	100.91	11.09	2.36	40.91	4.55	0.97
	51—60	27(18.6)	167.04	22.66	4.26	103.70	21.86	4.21	39.07	4.28	0.82
	Over 60	16(13.4)	180.0	29.89	7.47	109.38	18.43	4.01	40.38	2.55	0.64
Female	21—30	3 (2.4)	156.67	15.28	8.82	103.33	11.55	6.67	49.33	27.75	16.02
	31—40	10 (4.5)	162.0	19.89	6.29	107.0	14.18	4.48	34.60	3.78	1.19
	41—50	23(10.6)	165.22	23.33	4.86	102.17	19.30	4.02	35.79	4.49	0.94
	51—60	25(11.4)	165.60	25.51	5.10	106.40	15.51	3.10	35.84	2.75	0.53
	Over 60	43(29.1)	166.51	19.99	3.05	103.72	14.15	2.16	35.84	3.42	0.52

健康管理의 基本材料로서 檢討하였다.

1) 農村地域의 貧血의 頻度(赤血球容積中心)를 統計한 결과 表 4와 같다.

이 數値를 崔等이 報告한 市內 K, S 兩銀行의 男女 職員들과 梨大 女學生에 對한 貧血의 頻度(表 5)와 比較한 결과 男子에서는 K銀行은 ≦39%가 8%, ≦41%는 15.7%이며, 女子에서는 ≦34%가 3.5%, ≦35%는 5.2%이고 S銀行, 梨大 女學生 및 男子 敎職員들의 貧血의 頻度도 거의 비슷한 數値이나 農村에서의 本人들이 調査한 結果에서는 男子에서 ≦39%는 16.98%에서 73.68%이며 ≦41%의 경우도 27.36%에서 84.21%이고 女子에서는 ≦35%는 43.90%에서 50%이며 ≦34%의 경우는 32.59%에서 46.15%의 高率을 나타내고 있다. 다만 年齡別 區別이 없기 때문에 正確한 比較는 不可能하였으나 거의 10倍의 差를 볼 수가 있다. 表 3에서 보는 바와 같이 男子의 경우 ≦41%일때 50歲 以上의 3年齡群에서는 平均値自體가 벌써 未達이며 ≦39%일때는 70歲 以上에서 平均値 自體가 未達임을 알 수가 있으며, 女子의 경우는 35% 內外가 平均値이며 ≦34%를 기준으로 貧血의 頻度를 관찰한다면 全年齡群에서 平均値가 未達임을 알 수 있다.

2) 血壓測定으로 W.H.O에서 말하는 高血壓의 分類에 속하는 患者들의 Ht.値를 同時에 관찰한 결과 表 6과 같다.

여기에서 보는바와 같이 男子는 71名으로서 全體의 11.3%, 女子는 94名으로서 全體의 10.1%이며 이 高血壓者들의 尿蛋白 및 尿糖檢査(Aimes 製 Urinsteek 用結法)을 實施한 결과 尿蛋白 +2 以上者는 男子 2名(2.8%), 女子 1名(1.1%)이고 尿糖 +1 以上者는 男子 2名(2.8%), 女子는 +3

Table 7. Incidence of Anemia for Hypertensions in Rural Areas (By Hematocrit Values)

Sex \ Age group / Standard	21—30	31—40	41—50	51—60	Over 60
Male ≦41%	0	0	59.09%	62.96%	75%
≦39%	0	0	22.73%	44.44%	43.75%
Female ≦35%	33.33%	60%	52.17%	48%	46.51%
≦34%	33.33%	40%	52.17%	36%	34.88%

인자가 1名(1.1%)이었으며 Ht.値를 관찰한 결과 특이한 것을 볼 수 없었다. Ht.値를 中心으로 한 貧血의 頻度를 관찰한 결과 表 7과 같다. 表 4와 比較한 결과 高血壓者群에서는 男子 40代 50代에서, 女子는 30代 40代 50代에서 一般보다 많은 貧血을 초래하고 있음을 볼수가 있다. 이것을 좀 더 具體的으로 分析하여 都市型 高血壓者群과 農村型 高血壓者群間의 差異點을 찾아 보고 다음 기회에 보고하고저 한다.

Ⅴ. 結　　論

濟州道를 제외한 韓國道路公社 "새마을"姉妹部落인 19個 自然部落에서 총 1559名의 血壓 및 Ht.를 檢査한 결과 다음과 같은 結論을 얻었다.

1) 性別, 年齡別(20代에서 70代까지 10代간격) 血壓値는 男子에서는 20代에서 M(平均値)는 125.85/74.15mmHg, δ(標準偏差)는 15.9/10.2, m(標準誤差)는 1.55/0.99, 30代에서 M는 123.93/77.19mmHg, δ는 14.4/10.8, m는 1.24/0.93, 40代에서 M는 128.44/81.15mmHg, δ는 23.9/14.7, m는 2.16/1.33, 50代에서 M는 128.48/81.24mmHg, δ는 24.7/13.9, m는 2.05/1.16, 60代에서 M는 135.80/81.70mmHg, δ는 27.4/18.8, m는 2.74/1.88, 70代에서 M는 146.84/83.16mmHg, δ는 24.5/10.0, m는 5.62/2.30이고 女子에서 20代의 M는 117.89/73.33mmHg, δ는 15.7/12.1, m는 1.42/1.09, 30代의 M는 118.04/75.71mmHg, δ는 16.9/13.0, m는 1.13/0.87, 40代의 M는 120.92/78.17mmHg, δ는 20.9/12.9, m는 1.42/0.87, 50代의 M는 122.14/79.55mmHg, δ는 24.2/15.9, m는 1.63/1.07, 60代의 M는 131.57/84.29mmHg, δ는 28.4/16.9, m는 2.58/1.5370, 70代의 M는 139.62/86.54 mmHg, δ는 22.4/15.7, m는 4.38/3.09이며 모든 年齡群에서 收縮期性血壓은 男子가 70～230 mmHg, 女子가 80～230mmHg이며 擴張期性血壓은 男子가 50～160mmHg이고 女子는 40～140 mmHg이었다.

2) 性別, 年齡別 赤血球容積値는 男子 20代에서 M는 42.72%, δ는 3.05, m는 0.30, 30代의 M는 41.77%, δ는 3.29, m는 0.28, 40代의 M는 41.39%, δ는 3.86, m는 0.35, 50代의 M는 40.12%, δ는 3.65, m는 0.30, 60代의 M는 39.88%, δ는 3.81, m는 0.38, 70代의 M는 38.47%, δ는 2.27, m는 0.52이고 女子의 20代 M는 35.40%, δ는 3.37, m는 0.30, 30代의 M는 35.50%, δ는 3.35, m는 0.22, 40代의 M는 35.75%, δ는 3.18, m는 0.22, 50代의 M는 35.84%, δ는 3.30, m는 0.22, 60代의 M는 35.70%, δ는 3.35, m는 0.30 70代의 M는 35.08%, δ는 3.08, m는 0.60이고 年齡群을 無視한 度數分布를 본다면 男子는 23～50%, 女子는 18～50%였다.

3) 血壓値와 Ht.値를 比較한 결과 男女 共히 年齡의 增加와 比例하여 血壓은 上昇하며(收縮期, 擴張期 共히) Ht.値는 反比例하여 적어지고 있다.

4) 高血壓者는 1,559名中 男子는 71名(11.3%) 女子는 94名(10.1%)이었으며 이들中 尿蛋白 +2 以上은 男子 2名, 女子 1名이었다.

5) 赤血球容積値를 中心으로 한 貧血의 頻度를 볼때 男子는 ≦41%(≦39%)에서 20代는 27.36% (16.98%), 30代에서 41.48%(25.93%), 40代에서 42.62%(25.41%), 50代에서 62.76%(40.69%) 60代에서 70%(38%), 70代에서 84.21%(73.68%)이며, 女子에서 ≦35%(≦34%)인 경우는 20代에

서 43.90%(37.39%), 30代에서 48.21%(33.93%) 40代에서 43.58%(32.57%), 50代에서 45.91%(34.09%), 60代에서 47.11%(37.19%), 70代에서 50%(46.15%)였고 姜等이 調査한 서울市中 K, S 兩銀行과 梨大 女學生의 貧血의 頻度를 比較한 결과 엄청난 差를 發見하게 되었으며, 男子에서는 50代以上의 3代年齡層에서 平均値 自體가 基準에 未達이며, 女子에서도 全體年齡群에서 基準에 未達하고 있었다.

高血壓者群에서의 貧血의 頻度는 男子는 50代에서, 女子는 30代에서 더 많은 貧血의 상태였었다.

References

1) 최영규, 지현숙, 조문숙, 윤동헌, 백인기, 김상인: 한국인의 적혈구 용적 및 백혈구 백분율에 대한 조사(제 1보), 大韓血液學會誌(抄錄), 8:60, 1973.
2) Dacie, J.V. and Lewis, S.M.: Practical hematology, p. 46—49, 4th ed., J. & A. Churchill, London, 1968.
3) Davidsohn, I. and Nelson, D.A.: Clinical diagnosis by laboratory methods, p. 129—130, 146—148, 14th ed. W.B. Saunders, Philadelphia 1969.
4) De Gruchy, G.C.: Clinical hematology in medical practice, p. 36—41, 45—46, 3rd ed., Blackwell Scientific publicatinds. Oxford, 1970.
5) 日野土郎 編 衛生檢査技術講座, 血液學 1:21—24, 醫齒藥出版, 1967.
6) 小宮兒造 編 日本人の正常血液像, 南山堂, 1962.
7) 小酒井望 編 正常値, p. 38—58, 醫學書院, 1968.
8) 姜志勇·姜得龍: 梨花女子大學生의 血色素値와 赤血球容積値, 大韓血液學會雜誌, 8:23—27, 1973.
9) 金文夏·姜得龍: 두 市中銀行 男女職員의 赤血球容積値 大韓血液學會誌, 8:2, 1973.

ABSTRACT

A Hematological Study on Korean of Rural Community

——Correllation on Blood Pressure, Hematocrit——

Taik Sung Nam, M.D., Duk Yong Kang, M.D., Ph.D.

Soon Chun Hyang General Hospital, Seoul, Korea.

A study on blood pressure and hematocrit values of 1,559 people in 19 Korean rural areas was carried out in 1974 and the results were analyzed statistically.

Obtained as follows:

1. The blood pressure according to sex and age groups (from the twenties to the seventies) was as follows:
   1) The blood pressure of male by age group
      (1) In the twenties, M(mean) was 125.85/74.15mm/Hg, δ(standard deviation) was 15.9/10.2, and m(standard error) was 1.55/0.99.
      (2) In the thirties, M was 123.93/77.19 mm/Hg, δ was 14.4/10.8, and m was 1.24/0.93.
      (3) In the forties, M was 128.44/81.15 mm/Hg, δ was 23.9/14.7, and m was 2.16/1.33.
      (4) In the fifties, M was 128.48/81.24 mm/Hg, δ was 24.7/13.9, and m was 2.05/1.16.
      (5) In the sixties, M was 135.80/81.70 mm/Hg, δ was 27.4/18.8, and m was 2.74/1.88.
      (6) In the seventies, M was 146.84/83.16mm/Hg, δ was 24.5/10.0, and m was 5.62/2.30.

2) The blood pressure of female by age group

(1) In the twenties, M was 117.89/73.33 mm/Hg, δ was 15.7/12.1, and m was 1.42/1.09.

(2) In the thirties, M was 118.04/75.71 mm/Hg, δ was 16.9/13.0, and m was 1.13/0.87.

(3) In the forties, M was 120.92/78.17 mm/Hg, δ was 20.9/12.9, and m was 1.42/0.87.

(4) In the fifties, M was 122.14/79.55 mm/Hg, δ was 24.2/15.9, and m was 1.63/1.07.

(5) In the sixties, M was 131.57/84.29 mm/Hg, δ was 28.4/16.9, and m was 2.58/1.53.

(6) In the seventies, M was 139.62/86.54mm/Hg, δ was 22.4/15.7, and m was 4.38/3.09.

And the range of systolic blood pressure in male was 70~230mm/Hg and in female was 80~230mm/Hg.

The range of distolic blood pressure in male was 50~160mm/Hg and in female was 40~140mm/Hg.

2. The hematocrit value according to sex and age groups was as follows:

1) The hematocrit values of male by age group

(1) In the twenties, M was 42.72%, δ was 3.05, and m was 0.30.

(2) In the thirties, M was 41.77%, δ was 3.29, and m was 0.28.

(3) In the forties, M was 41.39, δ was 3.86, and m was 0.35.

(4) In the fifties, M was 40.12%, δ was 3.65, and m was 0.30.

(5) In the sixties, M was 39.88%, δ was 3.81, and m was 0.38.

(6) In the seventies, M was 38.47%, δ was 2.27, and m was 0.52.

2) The hematocrit values of female by age group

(1) In the twenties, M was 35.40%, δ was 3.37, and m was 0.30.

(2) In the thirties, M was 35.50%, δ was 3.35, and m was 0.22.

(3) In the forties, M was 35.75%, δ was 3.18, and m was 0.22.

(4) In the fifties, M was 35.84%, δ was 3.30, and m was 0.22.

(5) In the sixties, M was 35.70%, δ was 3.35, and m was 0.30.

(6) In the seventies, M was 35.08%, δ was 3.08, and m was 0.60.

The range of hematocrit values in male was 23~50% and in female was 18~50% (unassociated with age groups).

3. In comparison with the blood pressure and the value of hematocrit of study groups showed that the blood pressure raised higher but the value of hematocrit got lowered on the contrary as the groups are getting older.

4. Total number of patients with hypertension was 165(10.6%) which were consisted with 71 male (11.3%) and 94 female (10.1%). But only two cases of the male patient and one case of the female patient were associated with protein uria.

5. The incidence of anemia by hematocrit values was as follows:

1) The incidence of male anemia patients based on≦41% (≦39%).

(1) In the twenties, incidence was 43.90% (16.98%).

(2) In the thirties, 41.48% (25.93%).

(3) In the forties, 42.62% (25.41%).

(4) In the fifties, 62.76% (40.69%).

(5) In the sixties, 70% (38%).

(6) In the seventies, 84.21% (73.68%).

2) The incidence of female anemia patients based on ≦35% (≦34%).

(1) In the twenties, incidence was 43.90% (37.39%).

(2) In the thirties, 48.21% (33.93%).

(3) In the forties, 43.58% (32.57%).

(4) In the fifties, 45.91% (34.09%).

(5) In the sixties, 47.11% (37.19%).

(6) In the seventies, 50% (46.15%).

6. The incidence rate of anemia patients with hypertension was highest in the age group 51~60 in male and 31~40 in female.