

where the difference between the classes is less marked.

Hasse also gives data concerning the weak or defective children, who generally cannot attend school regularly. Such children are usually abnormally developed or have some chronic ailment. In the primary schools nine per cent. belonged to this class. A striking fact is this, that in many cases these children in certain years were over normal; that is, were taller and heavier than other children. This suggests that there is a certain normal relation between mental

## Clinical Department.

### AN EXTERNAL APPLICATION IN SCARLET FEVER TO SHORTEN THE PERIOD OF DESQUAMATION AND DIMINISH THE DANGER FROM IT.

BY FRANCIS H. WILLIAMS, M.D., BOSTON.

It is thought that scarlet fever is disseminated in part by means of the epithelium which is shed during desquamation. To prevent the spread of the scales

TABLE IV.

Height.	Total number of observations.	Public schools, country.	Middle-class schools.		Elementary schools.				Military asylums.	Industrial schools.
			Upper towns.	Lower towns.	Agricultural laborers, country.	Artisans, towns.	Factories and workshops.			
							Country.	Towns.		
60 inches . . . .	6	2	..	3	..	1	..	..	..	..
59 inches . . . .	16	2	3	5	2	2	..	..	1	..
58 inches . . . .	35	9	9	8	5	0	2	..	2	..
57 inches . . . .	66	11	17	13	4	4	5	5	7	1
56 inches . . . .	118	21	23	27	14	4	10	3	15	..
55 inches . . . .	230	28	35	57	32	15	13	17	33	..
54 inches . . . .	329	33	53	68	47	24	36	20	46	2
53 inches . . . .	361	15	55	58	47	26	34	38	84	4
52 inches . . . .	441	14	37	61	53	36	52	59	118	6
51 inches . . . .	370	6	25	40	36	28	45	57	123	10
50 inches . . . .	367	7	23	27	32	17	46	61	143	11
49 inches . . . .	252	2	8	20	14	12	31	40	114	11
48 inches . . . .	132	..	3	1	7	4	11	20	76	10
47 inches . . . .	102	..	3	4	5	7	5	13	59	6
46 inches . . . .	22	..	..	..	1	1	3	7	7	3
45 inches . . . .	12	..	..	..	..	..	..	1	10	1
44 inches . . . .	1	..	..	..	..	..	..	..	..	1
43 inches . . . .	1	..	..	..	..	..	..	..	1	..
42 inches . . . .	1	..	..	..	..	..	..	..	1	..
Total . . . .	2,862	150	204	392	304	181	293	341	840	66
Average height . .	52.60	54.98	53.85	53.70	53.01	52.60	52.17	51.56	51.20	50.02
Mean height . . .	52.5	55.0	54.0	53.5	53.0	52.5	52.0	51.5	51.0	50.0

and physical development, the finding of which is one of the aims of anthropometry.

TABLE V.

Age.	Height.		Weight.	
	Boys. Cm.	Girls. Cm.	Boys. Pounds.	Girls. Pounds.
6-7 years . . . .	110.2	109.3	42.7	40.9
7-8 years . . . .	114.4	113.7	45.8	44.7
8-9 years . . . .	119.4	117.7	49.3	48.1
9-10 years . . . .	123.9	124.0	53.4	52.4
10-11 years . . . .	129.1	128.6	57.5	57.0
11-12 years . . . .	132.4	133.9	61.9	63.2
12-13 years . . . .	138.2	139.5	69.1	70.5
13-14 years . . . .	140.7	145.1	71.8	77.2
Over 14 years . . .	146.2	149.1	79.8	86.5

**A PENSION FOR A DISTINGUISHED PHYSICIAN.**—According to the *Lancet* for August 5th, her Majesty's government, on the recommendation of the governor-general of India in council, has conferred on the distinguished physician Sir Joseph Fayrer, as a reward for distinguished and meritorious service, a pension of £100 per annum.

during this time an application should be made to the skin and we can choose one that combines several qualities. It should be harmless to the patient, sticky enough to diminish the mechanical dissemination of the peeled skin and yet promote its removal and hasten the return of this organ to a healthy condition, and also have some germicidal properties. I have found glycerin mixed with hydrogen-dioxide solution containing a little free hydrochloric acid, which latter contributes germicidal properties to the mixture, to answer this purpose; one part glycerin to seven parts of a ten-volume hydrogen-dioxide solution. If the amount of hydrochloric or nitric acid in the dioxide solution is very small more may be added, but if the solution contains one-twentieth to one-tenth of one per cent. it will probably have considerable germicidal action if in contact with the scales for some time.<sup>1</sup>

Several years ago, in the scarlet-fever wards of the Boston City Hospital, I demonstrated that the period of desquamation could be shortened by the use of this mixture. The method which I used may be briefly described by quoting from a paper which I

<sup>1</sup> It should not be brought in contact with colored fabrics.

published in the *American Journal of the Medical Sciences*, August, 1895.

"In scarlet fever it seems to me desirable to prevent the dissemination of the epithelial scales which are often shed abundantly, and to hasten the removal of the layer of epithelium in order to free the normal skin. For this purpose I have the patient rubbed all over daily — avoiding the hair — with a mixture containing seven parts of ten-volume hydrogen-dioxide solution and one part of glycerin; if the patient finds this too sticky, the proportion of glycerin may be reduced. A quarter of the body may be done at a time, and some hours later another quarter and so on. As soon as any portion of the skin is normal the application may be there dispensed with." The average length of the period of desquamation may be reduced if this treatment is properly carried out. To shorten this period is desirable in private practice and in a hospital it has a money value. Take, for example, 1,000 cases; if this treatment will shorten the stay of the patients only three days (I found the average more than this) we have a total of 3,000 days, or eight years, saved.

## Medical Progress.

### REPORT ON PROGRESS IN THORACIC DISEASES.

BY GEORGE G. SKARS, M.D., AND JOHN W. BARTOL, M.D., BOSTON.

(Concluded from No. 10, p. 241.)

#### OPEN DUCTUS BOTALLI.

THE comparative frequency of cases of congenital cardiac defect persisting without essential impairment of development or marked circulatory disturbances, is again illustrated by two instances of open ductus Botalli reported by Burghart<sup>7</sup> and Drasche.<sup>8</sup> Both patients were adults, twenty-one and twenty-eight years of age, and neither showed anything of special significance in previous history or general examination; there was no cyanosis or evidence of defective blood supply.

In the first case there was visible pulsation in second intercostal space to left of sternum, apex beat strong and heaving just outside nipple line (space not stated), dulness from upper border of fourth, extending toward right as far as mid-sternum; above this dulness, however, was a "ribbon-shaped" area of dulness two and one-half to three centimetres broad, running upward near left sternal border; in the second left intercostal space was felt a strong thrill which seemed transmitted up and to the left, but could be felt everywhere over precordial area; in the second left space a sharply localized murmur occupying systolic interval and extending into diastole; no second sound except after rest in bed; murmur plainly heard ten centimetres from body; aortic sounds masked by pulmonic murmurs which were also heard in left interscapular region. From above facts, observer concludes that ductus was open, but he infers that there was probably also pulmonary stenosis.

In the second case pulsation was visible in the second and fifth intercostal spaces and a thrill palpable in second and third; apex in fifth, heaving; dulness beginning in second space and extending to right one

centimetre beyond left sternum border; at apex systolic murmur, second sound pure; in second left space a peculiar systolic murmur of marked intensity; second sound somewhat accentuated and followed by a soft murmur; the systolic murmur at times quite rough and "whirling," loudly transmitted to carotids; over aortic area a systolic murmur and faint second sound. At autopsy (death due to caustic-potash poisoning) was found a small, thin-walled heart; the aorta and pulmonary artery touched each other at site of ductus Botalli, through which could be passed a probe three millimetres in diameter; through foramen ovale could be passed a bristle only. It was assumed that both systolic and diastolic murmurs were due to stream of blood pouring into pulmonary artery from aorta, where pressure is at all times greater.

The important diagnostic signs are considered to be a systolic murmur of extraordinary intensity, variously described as rasping, whirling, rustling, buzzing, or even musical, heard loudest in first or second left intercostal space, where also generally pulsation is visible and a thrill palpable; diastolic murmurs are less often heard. The area of heart's dulness is somewhat increased and Gerhardt describes as characteristic the ribbon-shaped area of dulness in the first and third space, corresponding to the dilated pulmonary artery.

#### ACUTE ENDOCARDITIS.

Harbitz<sup>9</sup> has made a careful study of all the cases of endocarditis which have come under his observation during the past four years. Forty-three of these were classed as infectious, of which seventeen were due to the streptococcus, five to the pneumococcus, eight to the staphylococcus and three to other specific organisms. In addition there were ten cases of healed infectious endocarditis. Although due to the ordinary pyogenic bacteria they differed so markedly both in the pathological appearances and clinical history, that a division into two groups is fully justified. The first is represented by those classes whose point of origin is found as a rule in some local collection of pus and which run a rapid course as a fulminating pyemia with high fever. At the autopsy a diphtheritic membrane is usually found in the valves as well as ulcerative and necrotic foci in the valvular substance, and occasionally at their bases abscess cavities are seen running deeply into the cardiac muscle. At the same time multiple abscesses are found as a rule in the skin, heart, spleen, kidneys, eyes, etc. These cases illustrate the classical description of malignant endocarditis and most commonly result from infection with the pyogenic staphylococci.

In the second group, due chiefly to streptococci or pneumococci, the inflammation of the endocardium does not appear as one symptom of a general infection, but rather as the central focus from which the infection was spread. A striking feature is their long duration, four, six or even ten months elapsing between the appearance of the first symptom and the death of the patient. The onset of the disease is gradual, the first symptoms consisting of slight fever, rheumatic pains and malaise, which gradually give way to more serious manifestations, dyspnea, cough, hemorrhages, cyanosis and edema. Fever may be slight throughout, or it may be remittent or intermittent. Symptoms connected with the kidneys are often so pronounced that clinically the case is regarded as one of

<sup>7</sup> Deut. med. Woch., 1898.

<sup>8</sup> Wion. klin. Woch., 1898.

<sup>9</sup> Deut. med. Woch., February 23, 1899.