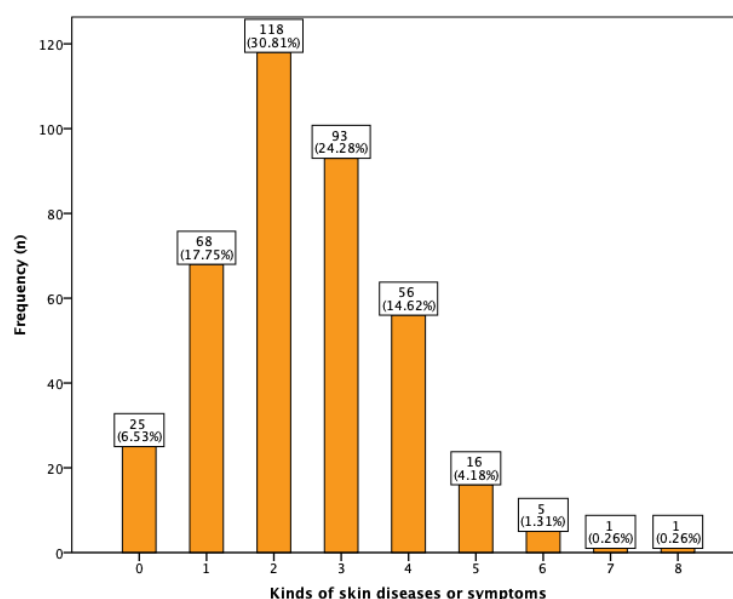




1

2 **Supplementary Figure 1:** The kinds of dermatoses in the Da Qing Diabetes Study.

3 **Supplementary Table 1:** Basic characteristics of study subjects.

Characteristics		Year-1986			Year-2016		
<i>N</i>		383			383		
Sex	Male	161			161		
	Female	222			222		
Age (years)	Mean	39.78			69.78		
	SD	6.74			6.74		
	Range	23–59			53–89		
BP	Level	<i>N</i>	%	Hypertension (%)	<i>N</i>	%	Hypertension (%)
	Normal	238	62.1	—	131	35.1	—
	Stage 1	96	25.1		141	37.8	
	Stage 2	32	8.4	37.9	74	19.8	64.9
	Stage 3	17	4.4		27	7.2	
	Total	383	100.0		373	100.0	
BMI	Index	<i>N</i>	%	Overweight (%)	<i>N</i>	%	Overweight (%)
	<18.5	9	2.3	—	6	1.6	—
	18.5–23.9	148	38.7	—	127	34.2	—
	24.0–27.9	155	40.5		171	46.1	
	≥28	71	18.5	59.0	67	18.1	64.2
	Total	383	100.0		371	100.0	
BG	Group	<i>N</i>	%	Pathoglycemia (%)	<i>N</i>	%	Pathoglycemia (%)
	NGT	164	42.8	—	68	17.8	—
	IGT	130	33.9		51	13.3	
	T2DM	89	23.2	57.2	264	68.9	82.2
	Total	383	100.0		383	100.0	

4 BG: Blood glucose; BMI: Body mass index; BP: Blood pressure; IGT, Impaired glucose tolerance; NGT:

5 Normal glucose tolerance; SD: Standard deviation; T2DM: Type 2 diabetes mellitus.

6 **Supplementary Table 2: The prevalence of skin diseases in the Da Qing Diabetes Study.**

Categories	Dermatoses	N	Percent (%)
Disturbances of pigmentation	Hyperpigmentation	63	16.45
	Vitiligo	4	1.04
	Solar lentigo	1	0.26
	Freckle	1	0.26
	Nevus of Ota	1	0.26
	Idiopathic guttate leucoderma	36	9.40
	Post-inflammatory pigmentation	51	13.32
	Total*	157	40.99
Allergic dermatoses	Allergic dermatitis	7	1.83
	Urticaria	9	2.35
	Drug eruption	1	0.26
	Solar dermatitis	2	0.52
	Dermatitis	19	4.96
	Eczematoid dermatitis	2	0.52
	Seborrheic dermatitis	1	0.26
	Eczema	2	0.26
	Allergic purpura	1	0.26
	Total*	44	11.49
Diseases of the skin appendages	Alopecia	44	11.49
	Broken hair	1	0.26
	Yellow nail syndrome	2	0.52
	Melanonychia	3	0.78
	Onychodystrophy	2	0.52
	Leukonychia	1	0.26
	Rosacea	1	0.26
	Total*	54	14.10
Metabolic dermatoses	Xanthoma	2	0.52
	Lichen amyloidosis	1	0.26
	Diabetic foot	2	0.52
	Total*	5	1.31
Skin tumors	Seborrheic keratosis	49	12.79
	Vascular nevus	24	6.27
	Cutaneous cyst	6	1.57
	Milium	11	2.87
	Skin swelling	1	0.26

	Lipoma	3	0.78
	Fibroma	3	0.78
	Scar	8	2.09
	Total*	105	27.42
Papulosquamous dermatoses	Psoriasis	5	1.31
	Neurodermatitis	7	1.83
	Prurigo	1	0.26
Neurological and psychogenic dermatoses	Pruritus	89	23.24
	Total*	97	25.33
	Onychomycosis	180	47.00
	Tinea pedis	52	13.58
	Bacterial infections	19	4.96
	Wart	61	15.93
	Herpes zoster	25	6.53
Infectious skin diseases	Oral herpes simplex	1	0.26
	Chickenpox	2	0.52
	Herpes simplex	1	0.26
	Tinea cruris	1	0.26
	Pityriasis versicolor	2	0.52
	Total*	344	89.82
	Callus	1	0.26
	Ichthyosis	1	0.26
	Keratosis	1	0.26
	Keratosis pilaris	1	0.26
	Xerosis cutis	5	1.31
Other dermatoses	Granuloma annulare	1	0.26
	Varicose veins	42	10.97
	Superficial varicose veins	17	4.44
	Facial erythema	30	7.83
	Total*	99	25.85

*The total subjects: if someone had any one kind of skin disease, he or she was regarded as a patient with skin disease.

Skin diseases or symptoms	N	Percent (%)
Onychomycosis	133	50.38
Pruritus	64	24.24
Hyperpigmentation	53	20.08
Varicose veins	50	18.94
Wart	43	16.29
Post-inflammatory pigmentation	42	15.91
Seborrheic keratosis	40	15.15
Tinea pedis	34	12.88
Alopecia	24	9.09
Idiopathic guttate leucoderma	22	8.33
Herpes zoster	19	7.20
Facial erythema	18	6.82
Dermatitis	15	5.68
Bacterial infections	14	5.30
Vascular nevus	12	4.55
Milium	7	2.65
Urticaria	6	2.27
Neurodermatitis	5	1.89
Cutaneous cyst	4	1.52
Scar	4	1.52
Vitiligo	3	1.14
Allergic dermatitis	3	1.14
Psoriasis	3	1.14
Diabetic foot	2	0.76
Pityriasis versicolor	2	0.76
Xanthoma	2	0.76
Fibroma	2	0.76
Solar lentigo	1	0.38
Freckle	1	0.38
Nevus of Ota	1	0.38
Eczematoid dermatitis	1	0.38
Seborrheic dermatitis	1	0.38

Eczema	1	0.38
Allergic purpura	1	0.38
Broken hair	1	0.38
Yellow nail syndrome	1	0.38
Melanonychia	1	0.38
Onychodystrophy	1	0.38
Leukonychia	1	0.38
Rosacea	1	0.38
Skin swelling	1	0.38
Lipoma	1	0.38
Tinea cruris	1	0.38
Callus	1	0.38
Keratosis pilaris	1	0.38
Xerosis cutis	1	0.38
Granuloma annulare	1	0.38

11 T2DM: Type 2 diabetes mellitus.

12 **Supplementary Table 4: Development process of NGT/IGT/T2DM groups from 1986 to 2016.**

Baseline (1986)		NGT, IGT, and T2DM development process														Ending (2016)		
Groups	N	Year														Groups	N	
NGT	164	--->														NGTn	68	
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	T2DMn	58
		3	0	0	0	0	1	0	1	0	1	0	2	1	1	1		
		2001	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
		1	3	0	4	2	3	3	9	1	1	2	1	3	1	13		
		--->														IGTn	38	
IGT	130	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	T2DMn	117
		0	1	14	2	26	1	17	4	4	2	2	2	3	8	4		
		2001	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
		2	2	3	1	8	0	1	0	1	1	1	1	0	0	6		
		--->														IGTn	13	
T2DM	89	--->														T2DMn	89	
Total	383	--->														Total	383	

13 IGT: Impaired glucose tolerance; NGT: Normal glucose tolerance; T2DM: Type 2 diabetes mellitus.

14 NGTn, IGTn, and T2DMn mean the new classifications of 383 subjects in 2016.

15 **Supplementary Table 5: Association between the prevalence of skin diseases and the duration of T2DM.**

Duration of T2DM	Skin diseases		Total	Skin diseases (%)	χ^2	P
	Normal	Patient				
Disturbances of pigmentation						
≥30	41	51	92	55.4	14.48	<0.01
20–29	50	26	76	34.2		
10–19	36	12	48	25.0		
<10	27	21	48	43.8		
Total	154	110	264	41.7		
Allergic dermatoses						
≥30	83	9	92	9.8	0.80	0.85
20–29	68	8	76	10.5		
10–19	41	7	48	14.6		
<10	43	5	48	10.4		
Total	235	29	264	11.0		
Diseases of the skin appendages						
≥30	79	13	92	14.1	3.70	0.30
20–29	72	4	76	5.3		
10–19	42	6	48	12.5		
<10	42	6	48	12.5		
Total	235	29	264	11.0		
Skin tumors						
≥30	74	18	92	19.6	1.48	0.69
20–29	56	20	76	26.3		
10–19	37	11	48	22.9		
<10	35	13	48	27.1		
Total	202	62	264	23.5		
Neurological and psychogenic dermatoses						
≥30	61	31	92	33.7	5.76	0.12
20–29	61	15	76	19.7		
10–19	39	9	48	18.8		
<10	36	12	48	25.0		
Total	197	67	264	25.4		
Infectious skin diseases						
≥30	31	61	92	66.3	0.64	0.89
20–29	30	46	76	60.5		
10–19	18	30	48	62.5		
<10	18	30	48	62.5		
Total	97	167	264	63.3		

16 T2DM: Type 2 diabetes mellitus.

Supplementary Table 6: Sex stratified analysis about prevalence difference of “disturbances of pigmentation” in NGT and T2DM groups.

Group	Sex	Skin diseases, <i>n</i> (%)		Total	χ^2	<i>P</i> ₁	χ^2	<i>P</i> ₂
		Normal	Patients					
NGT	Male	40 (52.6)	36 (47.4)	76	23.42	<0.0001	18.52	<0.0001
	Female	75 (87.2)	11 (12.8)	86				
	Total	115	47	162				
T2DM	Male	5 (16.7)	25 (83.3)	30	13.06	<0.001		
	Female	32 (57.1)	24 (42.9)	56				
	Total	37	49	86				

NGT: Normal glucose tolerance; T2DM: Type 2 diabetes mellitus.