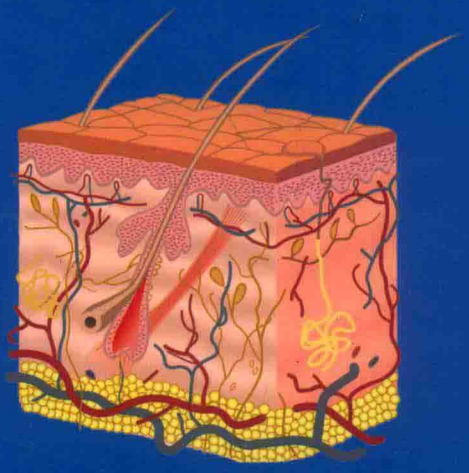
全国高等医药院校精品图书

英汉皮肤性病学

（第2版）

English-Chinese Dermatovenereology (Second Edition)

黄长征 ◎ 主编



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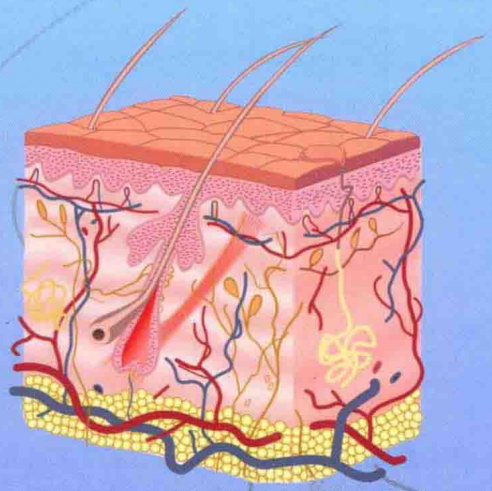

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内 容 简 介

本书为高等医药院校精品教材《英汉皮肤性病学》第2版。全书分为两部分：第一部分共4章，为皮肤性病学的基础知识、基本理论、技术和方法，包括皮肤的基本结构和功能，皮肤病的症状、体征和基本诊断方法，皮肤组织病理及皮肤性病治疗学的基本知识；第二部分共23章，介绍皮肤科常见病和多发病、部分少见疑难性皮肤病、性传播疾病，包括病因、发病机制、临床表现、诊断与鉴别诊断、预防和治疗。全书共有图片405幅，其中彩色照片396幅，彩色示意图6幅，黑白照片3幅。

本书为华中科技大学立项精品课程教材，适合五年制、六年制和八年制医学生以及来华留学生英文教学使用，也适合中文教学和皮肤科专科医师及规培生使用。

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非常感谢 Ernest Allen 对本教材中的英文用词、拼写和语法提出的宝贵意见!

序　言

近几年来，专业英文教学在我国高等医学院校中普遍开展，很多院校有全英文班或开展了全英文教学以及来华留学生专业英文教学，专业英文教学日益受到重视。2008年我们组织了国内13个单位的专家编写了《英汉皮肤性病学》教材第1版，于2009年正式出版，第1版出版后得到了广大读者的肯定和好评，同时也指出了其中的不足并提出了宝贵的意见，在此，向各位读者表示衷心的感谢！第1版全体编委及编写人员为本教材的出版付出了艰辛的劳动，特别是美国华盛顿特区乔治城大学微生物和免疫系的李冬梅教授作为本教材的英文主审所做出的巨大努力是难以想象的，在此向她深表谢意！

7年过去了，皮肤性病学领域在学科理论、疾病分类、实验技术、临床诊治方面都有了新的进展，为适应学科的发展和新世纪医学人才培养的需要，特对本教材进行修订。本次修订保持了本教材第1版的总体特色，即全书分为两部分，第一部分为皮肤性病学的基本知识，第二部分为各论，介绍皮肤科常见多发病，并根据学科的发展需要和疾病病种发病率的改变对部分章节及内容进行了增补和删减，对部分疾病进行了更合理和科学的章节归类及采用了更科学的命名：第一章更名为“皮肤的基本结构和功能”；第三章增加了“皮肤镜检查”等新的诊断方法；增加了第四章“皮肤病的外用药治疗和物理治疗”；第五章中将“鲍温样丘疹病”删除，其内容移入尖锐湿疣鉴别诊断中；第六章细菌感染性皮肤病增加了“非典型分枝杆菌所致的皮肤病”；第九章中将“化妆品皮炎”并入“接触性皮炎”一节中；第十五章新增了“原发性免疫缺陷病”；第十六章增加了“青斑样血管病”；第十八章中的“类脂质渐进性坏死”移至“非感染性肉芽肿”章节；新增第二十五章“非感染性肉芽肿”等。新概念、新理论、新技术、新的疾病分类、诊断标准及鉴别诊断和治疗的进展将体现在各章节中。同时对第1版中的绝大部分照片进行了更换或调整，多数为近几年来新拍摄的质量较好和典型的照片，如此种种读者从中可以了解。

参加第2版编写的编委及编写人员基本上都参加了第1版的编写，他们具有第1版的写作经验，并曾在国外学习或工作1年以上，具有较好的英文基础及丰富的临床经验；为加强写作力量，我们新增了7位编委：南京医科大学第一附属医院骆丹教授，浙江大学医学院附属第二医院蔡绥勋教授，西安交通大学第二附属医院耿松梅教授，华中科技大学同济医学院附属协和医院陈宏翔教授，中南大学湘雅医院施为教授，北京大学第一医院汪旸教授，福建医科大学附属第一医院纪超教授。

同时，我们再次邀请了美国华盛顿特区乔治城大学微生物和免疫系的李冬梅教授及加拿大不列颠哥伦比亚大学皮肤科的You-wen Zhou教授作为本教材的英文主审、加拿大不列颠哥伦比亚大学药学院的Jia-ying Zhou作为英文副主审，并请Ernest Allen先生对英文用词进行把关，以保证本教材的质量，我们希望第2版能比第1版编写得更出色。

教材中的图号两位数字分别表示章、图序号。示意图图1-1、图1-2、图1-7、图1-10、图1-11和图1-24由我院影像科的鲁永康女士制作；图17-1、图24-2由第四军医大学皮肤科提供；图2-24、图21-3、图21-5、图21-11和图21-12由北京大学第一医院皮肤科陈喜雪教授提供，其他照片由本人及各参编单位提供。在本教材的编写过程中，两位英文主审特别是李冬梅教授、英文副主审、各位副主编、编委以及编写者付出了大量的心血和辛勤劳动；同时得到华中科技大学及华中科技大学出版社有限责任公司各级领导的关心和支持，华中科技大学同济医学院附属协和医院皮肤科陶娟主任、前任主任涂亚庭教授及全体同仁给予了热情鼓励和帮助，本科室的博士和硕士研究生赵梦洁、冉艺、赖艇、孙艳虹、谢蒙、安湘杰、吴士迪以及Abdul-fattah Bilal，Al-Muriesh Maher，Nabatanzi Amelia，Hageb Omar等在教材的资料整理及校对工作中也付出了艰辛的劳动，在此一并表示感谢！

虽然我们尽力而为之，但是，毕竟对所有作者而言，英文都不是我们的母语，疏漏谬误之处难以避免，敬请各位同道和读者指正和谅解！

黄长征

2016年8月12日

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Part One 第一部分

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第一章 皮肤的基本结构和功能

Section One Basic Structure of the Skin

The skin is the largest human organ and completely covers the body. It accounts for about 15 percent of a human's weight, and has an area about 0.2 m^2 for a newborn and approximately 1.6 m^2 for an adult. It performs many vital functions and is an important component of the immune system.

The entire surface of the skin is covered by alternating sets of fine grooves and ridges which are known as the *sulci cutis* and the *cristae cutis* respectively. The orientation and density of these dermal ridges and valleys varies according to the specific area of the body. The openings for the sweat pores are located exclusively in the ridges. Although it is unknown precisely how the conditions of human development determine the orientation of these ridges, it is well known that the swirled pattern on the palms and soles, also known as the "fingerprints" when it comes to modern crime analysis dramas, is not only unique to the person but also unchanging over a person's life. The terminal hairs or tiny vellus hairs also cover most parts of the body. In addition, some characteristic lines known as "Blaschko lines" can manifest themselves in cutaneous mosaicism as a symptom of certain skin diseases.

The color of the skin depends upon race, age, gender, nutrition and environment, and even varies with specific location on the body.

The skin is composed of three anatomically distinct layers. From the surface inward, these are the epidermis, dermis, and subcutaneous tissue (fat-storing cells) (Fig. 1-1).

第一节 皮肤的基本结构

皮肤覆盖于人体表面，是人体最大的器官，约占总体重的15%，成人和新生儿的皮肤总面积约分别为1.6 m^2和0.2 m^2。皮肤具有许多重要功能，是人体的重要免疫器官之一。

皮肤表面有呈网状深浅不一和方向不同的沟和嵴，分别称为皮沟和皮嵴。身体上不同部位的皮嵴和皮沟的起始方向不同，汗孔开口于皮嵴。虽然还不清楚人类在发育时是如何决定这些不同皮嵴的起始的，但众所周知的是，掌跖部位的皮沟和皮嵴的漩涡状形态，即现代犯罪案例分析中的指纹，不仅对每个人而言是独特的，并且终生不变。皮肤表面大多被覆有毛发和毳毛。此外，皮肤表面可有许多呈特殊分布和走向的不规则分界线，称为Blaschko线。某些具有镶嵌特征的皮肤病可以呈现Blaschko线分布。

皮肤的颜色因种族、年龄、性别、营养以及外在环境而异，甚至同一个人不同部位的颜色也有深浅的差别。

在解剖学上，皮肤都是由表皮(epidermis)、真皮(dermis)、皮下组织(subcutaneous tissue)或皮下脂肪(subcutaneous fat)三层所组成(图1-1)。

Epidermis

The epidermis is the outmost layer of the skin, which interacts directly with the external environment. The thickness of the epidermis varies significantly from site to site on the body, from less than 0.1 mm on the eyelids to 1.5 mm on the palms of the hands and soles of the feet. The epidermis is composed of keratinocytes, Langerhans cells, α-dendritic cells (also known as indeterminate cells), melanocytes, Merkel cells and unmyelinated neurons. It also contains the cuboidal epithelial cells that form the

表 皮

表皮(epidermis)位于最外层，直接与外界接触。不同部位的皮肤其相对厚度有显著差异，掌跖部位的表皮最厚，约为1.5 mm，眼睑部位则不到0.1 mm。表皮由角质形成细胞、朗格汉斯细胞、α-树枝状细胞(未定类细胞)、黑素细胞、Merkel细胞及无髓鞘神经元构成。表皮中还含有形成小汗腺导管的末端螺旋汗

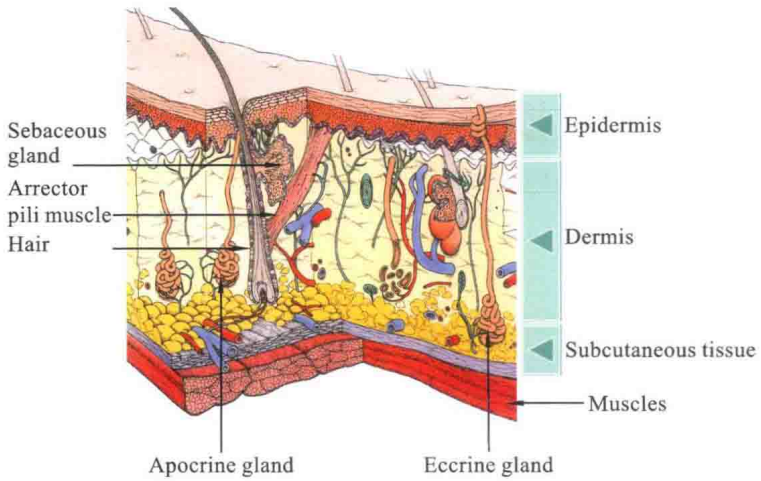

Fig. 1-1　Illustration of the skin structure(图 1-1　皮肤的组织结构示意图)

spiral acrosyringia of the eccrine sweat ducts. In about 10% of the population, the so-called Toker cells can be found in the epidermis of the nipple. Toker cells are clear cells with light staining cytoplasm, vesicular nuclei and prominent small nucleoli. These cells can express molecular markers for CK7, AE1, CAM5.2, cerB2, EMA, ER, PR, but not for P53 and CD138 in contrast to Paget's cells which do not express ER or PR but are positive for P53 and CD138 staining.

1. Keratinocytes

The epidermis is composed primarily of well-ordered cells called keratinocytes (or squamous cells). The name is derived from the fact that the basic function of such cells is to synthesize keratin. Keratinocytes account for 95% of the epidermal cell mass.

At the microscopic level, if we were to slice into the epidermis, we would see it divided into four layers. From the innermost layer to the outermost, these are known as the basal cell layer (*stratum basalis*), the prickle cell layer, or suprabasal cell layer (*stratum spinosum*), the granular cell layer (*stratum granulosum*), and the horny cell layer (*stratum corneum*) (Fig. 1-2, Fig. 1-3). Sometimes a pink layer can be found between the granular cell layer and the horny cell layer in the skin of the palms and soles. This layer is called the *stratum lucidum*.

The plane of contact between the epidermis and dermis is not smooth and flat, but is an undulant interface. The rete ridges of the epidermis grow down into the dermis and alternate with interdigitated projections of the dermal connective tissue (the latter are the so-called dermal papilla). The basement membrane zone (BMZ) is situated just between the epidermis and the dermis.

1) Basal cell layer(*stratum basalis*)

(1) Basal cells: the basal cells are also called epidermal matrix

一、角质形成细胞

表皮主要由有规则排列的细胞即角质形成细胞(keratinocyte)(又称鳞状细胞)构成,其基本功能是合成角蛋白。表皮的细胞 95%是角质形成细胞。

显微镜下,在二维切片中,表皮由内到外可以分为四层:基底细胞层(或基底层)、棘细胞层(或基底上细胞层,或棘层)、颗粒细胞层(或颗粒层)和角质细胞层(或角质层)(图 1-2,图 1-3)。在掌跖部位,颗粒层与角质层之间尚有一粉红色的透明层。

表皮和真皮之间的接触面不是平整的,而是高低不平呈起伏状,表皮嵴伸入真皮内,并与真皮内的结缔组织呈指状突起(后者称为真皮乳头)相互交织,基膜带位于表皮与真皮之间。

(一) 基底细胞层(基底层)

(1) 基底细胞　基底细胞又称为表

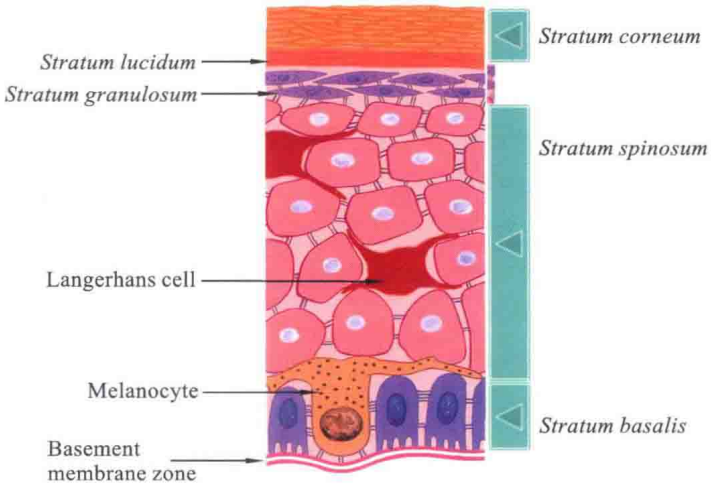

Fig. 1-2　Illustration of the epidermal layers(图 1-2　表皮的层次示意图)

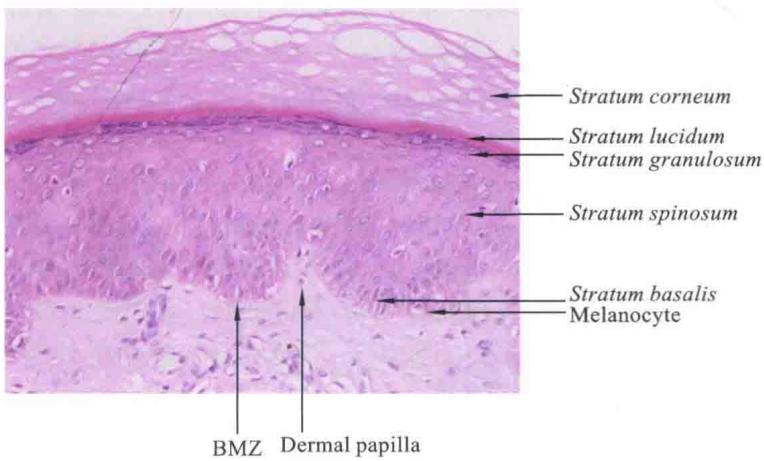

Fig. 1-3　The epidermal layers, HE staining(图 1-3　表皮的层次, HE 染色)

cells or epidermal germinative cells. They proliferate, differentiate, and then move upward through the full thickness of the epidermis, layer by layer. The mitotic activity in the epidermis is mainly confined to the basal cell layer. The time spanning from differentiation of keratinocytes in the basal cell layer to the exfoliation process in the horny cell layer is known as the epidermal transit time or epidermal turnover time. In normal skin, this takes about 28 days.

The epidermal stem cells are predominately located at the tips of the epidermal rete ridges, but also in the bulge regions of the hair follicles, and at the base of the sebaceous glands. Epidermal stem cells are characterized by their high expression levels of β1-integrin, α6-integrin, Lrig1, Rac1 and P63, their low expression of desmoglein 3 and by the lack of markers for terminal differentiation of epidermal cells. Hair follicle stem cells in the bulge areas can generate cells of the outer root sheath, differentiate into sebocytes and interfollicular epidermal cells and express the cell surface

皮母质细胞(epidermal matrix cells)或表皮生发细胞(epidermal germinative cells)。基底层细胞发生增殖、分化，并逐步向表皮上部移行于表皮全层。表皮的分裂活性主要发生于基底层。基底细胞从基底层发生增殖到表皮角质层脱落的时间称为表皮通过时间(epidermal transit time)或表皮更替时间(epidermal turnover time)，正常人约为 28 天。

表皮干细胞(epidermal stem cells)主要位于表皮嵴的顶端，在毛囊的隆突处、皮脂腺的底部也有类似的细胞。表皮干细胞的特征是高表达 β1 整合素、α6-整合素、Lrig1、Rac1 和 P63，而桥粒芯糖蛋白 3 的表达水平低，并缺乏终末分化标记。毛囊隆突处的干细胞能产生外毛根鞘细胞，分化为皮脂腺细胞、毛囊间表皮细胞，并表达细胞表面分子 CD34、

molecules such as CD34, VdR and transcription factors TCF3, Sox9, Lhx2 and NFATc1. Therefore, these stem cells play an important role in maintaining the homeostasis of the pilosebaceous unit. When sebocyte stem cells differentiate into sebocytes, the cells become full of lipid and express Blimp1.

The basal cell layer is grouped into a series of rectangular or columnar shaped keratinocytes, which contain relatively large round-oval nuclei dominated by chromatin, and which contain slightly more basophilic cytoplasm than the keratinocytes above it. By aligning in the manner of a series of palisades, the basal cells keep their long axes perpendicular to the plane of the basal membrane. The melanin in basal cells is obtained from adjacent melanocytes that govern the color and shades of the skin.

The cytoplasm of the basal cells and the keratinocytes above it are packed with intermediate keratin filaments arranged as bundles of threads (tonofilaments). This structure runs from the peripheral area of the nuclei to the specialized attachment plaques, desmosomes or hemidesmosomes, which are described below.

(2) Desmosome, hemidesmosome, and gap junction: epidermal cells are joined to one another by desmosomes (specialized intercellular bridges as shown in Fig. 1-4). They are joined horizontally between adjacent basal cells, vertically between basal cells and prickle cells above and also transversely between prickle cells themselves. The detailed view of desmosome structure reveals an electron-lucent space in the central part of the desmosomes, and an electron-dense central lamina (Fig. 1-4 inset) just in the middle of this intercellular matrix. The hemidesmosomes attach the basal-cell membrane to the basal membrane. The gap junctions also allow communication between adjacent basal cells.

基底细胞呈长立方形或圆柱形，胞质嗜碱性，核呈椭圆形，深染色质。基底层由单排呈栅栏状排列的基底细胞构成，其长轴与表皮和真皮间的分界线垂直。基底细胞胞质内含有从临近的黑素细胞输送而来的黑素颗粒，其含量的多少与肤色相匹配。

基底细胞及其上面的角质形成细胞的胞质内含有角蛋白中间丝，即张力细丝，张力细丝呈束状聚集在核周，并终止于胞质膜的特异化结构附着板，即桥粒或半桥粒。

(2) 桥粒、半桥粒、间隙连接　相邻的基底细胞之间以及基底细胞与其上面相邻的棘细胞之间、相邻的棘细胞之间通过细胞间桥(intercellular bridges)即桥粒(desmosome)(图 1-4)联系，桥粒中央为电子透明间隙，间隙内细胞间黏合物质的中央为电子密度致密的中央层(图 1-4 插入图)。基底层与其下的基膜则通过半桥粒(hemidesmosome)相互联系。基底细胞之间尚有用于细胞通讯的间隙连接(gap junction)。

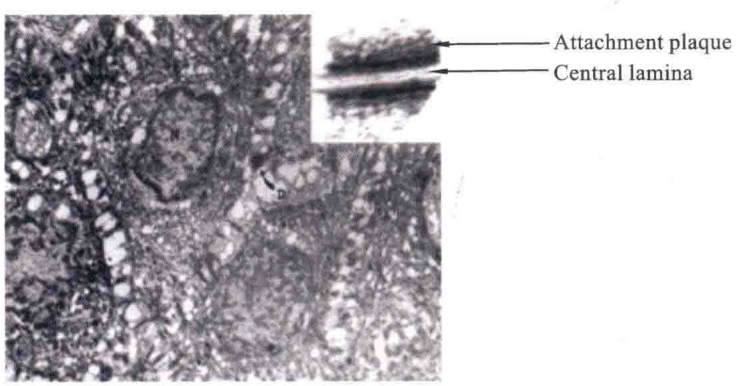

Fig. 1-4　Electron microcopy of desmosome. D: desmosome. Inset is the magnification of desmosome

(图 1-4　桥粒电镜照片。D:桥粒，插入图为桥粒放大)

① Desmosomes: desmosomes are composed of attachment plaque and transmembrane proteins that set up a bridge between cell surface and intracellular filaments. The attachment plaque is

①桥粒由附着板和跨膜蛋白构成，在细胞表面与细胞内的细丝之间起桥梁作用。前者的主要成分是桥粒斑蛋白

where desmoplakin attaches to the keratin fibers, and is also the place for transmembrane proteins, desmogleins and desmocollins to attach to desmoplakin via plakoglobin and plakophilin. Then the extracellular domains of desmogleins and desmocollins bind to each other in order to bridge the space between adjacent epidermal cells. In general, desmoglein 3 is common (and easily detected) in suprabasal keratinocytes and desmoglein 1 is in the group of keratinocytes just beneath the horny cell layer.

With the use of electron microscopy, each desmosome is seen to be made of three parts: the trilaminar plasma membrane structure of the adjacent keratinocytes, the electron-dense attachment plaque in each adjacent keratinocyte's cytoplasm, and an intercellular matrix betneen the two.

This trilaminar plasma, 8 nm in width, presents as three layers of differing density under electron microscopy. The inner layer (inner leaflet) is a fine electron-dense line along the cytoplasmic side of the plasma membrane adjacent to the attachment plaque; an electron-lucent central lamina stands in the middle, and finally the electron-dense outer layer (outer leaflet) interfaces to the intercellular matrix between the epidermal cells. The densest material of such intercellular matrix tends to be deposited on the surface of outer leaflet, and is known as cell surface coat. However, it is not easy to clarify the boundary between the cell surface coat and outer leaflet of the plasma membrane because of their similar density.

②Hemidesmosomes: as the name implies, hemidesmosomes are half desmosomes. This structure is important for connecting the basal cells to the lamina densa of the basal membrane. It is known that those intermediate filaments of the cytoskeleton at the hemidesmosomes that protrude from the basal keratinocytes are keratin 14 and keratin 5. A number of important molecules or antigens have been linked to hemidesmosomes including bullous pemphigoid antigen 1 (BPAG1, 230 kD), bullous pemphigoid antigen 2 (BPAG2, 180 kD), α6β4integrin, and other molecules such as α3β1 integrin, α2β1 integrin, IFAP300, P200, etc(Fig. 1-7).

③Gap junctions: these are 2-4 nm wide intercellular spaces between adjacent cells composed mainly of connexin units on the cell membrane. A total of 13 connexins have been described so far that can be classified into three groups: α、β and γ. The key function of these proteins is to connect adjacent cells by transporting small

(desmoplakin)，并与角蛋白纤维相连。后者主要是桥粒芯糖蛋白(desmoglein)和桥粒黏蛋白(desmocollin)。桥粒芯糖蛋白和桥粒黏蛋白通过桥粒斑珠蛋白(plakoglobin)和桥粒斑菲素蛋白(plakophilin)连接到桥粒斑蛋白。桥粒芯糖蛋白和桥粒黏蛋白的细胞外域彼此以相邻的表皮细胞间隙相连接。正常情况下，桥粒芯糖蛋白 3 比较常见且易于检测，位于基底层上的角质形成细胞间，而桥粒芯糖蛋白 1 主要位于角质细胞层下的角质形成细胞间。

电镜下，每一个桥粒包括两个相邻的角质形成细胞的三层胞质膜(trilaminar plasma membrane)及各自胞质内的 1 个电子致密的附着板以及细胞间黏合物质。

胞质膜：胞质膜厚约 8 nm，显示有三层结构，内层或内小叶(inner leaflet)表现为一道纤细的电子致密线，与附着板紧密相邻，中层为一电子透明线，外层或外小叶(outer leaflet)也为一电子致密线，表面直接与细胞间黏合物接触，这一覆盖于外小叶表面的黏合物质最致密的部分称为细胞表衣(cell surface coat)，因细胞表衣和外小叶的致密度相差不多，所以通常不易在二者之间分出界限。

②半桥粒，顾名思义，是桥粒的一半，是连接基底细胞与基膜的致密板的重要结构。基底层角质形成细胞内插入到半桥粒内的细胞骨架中间丝主要是角蛋白 14 和角蛋白 5。半桥粒含有大疱性类天疱疮抗原 1(BPAG1，230 kD)、大疱性类天疱疮抗原 2(BPAG2，180 kD)、α6β4 整合素及其他分子如 α3β1 整合素、α2β1 整合素、IFAP300、P200 等(图1-7)。

③间隙连接：在间隙连接处相邻细胞间有 2～4 nm 的缝隙，间隙连接的主要成分是间隙连接蛋白，迄今已发现有 13 种连接蛋白，并分为 3 组即 α、β 和 γ，其主要功能是连接细胞和转运小分子和