

英語

(第三冊)

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LESSON SEVENTEEN

IMMUNISATION AGAINST INFECTIONS

The term "immunity" used here to mean resistance to infective disease, is determined by the nature, dose and virulence of the infecting organism (as well as) by the nature of the host and efficacy of the body defences¹. It may be an innate property of the host. Most animal species have an innate immunity to most pathogenic organisms (relative to²) the properties of the invading organism; some³ have an absolute immunity due to various causes such as inability of their tissues to support the growth of the parasite or insusceptibility to the action of its toxins. Acquired immunity in contrast to innate immunity depends on the response to a previous contact with the infecting organism or its antigens or⁴ passage of certain antibodies from an actively immune animal to another.

Antibodies reacting with antigens on the surface of bacterial cells may produce secondary reactions: agglutination in the presence of electrolytes, sensitization⁵ to phagocytosis and to the lethal action of complement.

Complement is a complex entity consisting of at least four main components and at least two of these have been resolved into several subcomponents. The order in which the main components are fixed to a sensitised cell has been established, and lysis can apparently result from damage at a single locus. One component of complement is the precursor of an esterase and it is likely that the latter plays an enzymic role in the haemolytic and bacteriolytic action of complement and antibody. However, the chemical nature of the reactions which occur is still unknown.

Bacteria are destroyed in the body either by the action of cell-free serum containing antibodies and complement in the case of certain Gram-negative bacteria, or ingestion and destruction by phagocytes in the case of Gram-negative and Gram-positive organisms⁶. Lysozyme, an enzyme attacking mucopeptides of the cell wall, may have a synergistic action with complement in the destruction and lysis of susceptible Gram-negative bacteria sensitized with antibody to their surface antigens⁷. Antibodies with or without complement may in certain cases assist the intracellular destruction of bacteria taken up by phagocytes. Neutralisa-

tion of bacterial toxins and prevention of viral attachment to susceptible cells are further properties of antibody that play a part in immunity.

Natural antibodies, that is antibodies present in the serum of normal individuals, may be the result of unrecognised specific stimuli or stimuli with antigens cross reacting with those used for their demonstration⁸. Apart from antibodies, many less well defined factors have been described in serum and body tissues which have a lethal action on certain bacteria. Of these, properdin has been most⁹ studied. It is lethal to a number of antigenically unrelated Gram-negative bacteria and the Gram-positive B. subtilis in the presence of complement. There is evidence, however, that small amounts of specific natural antibody to the surface antigens of the susceptible bacteria are required. Properdin, therefore, may act like lysozyme in being synergistic in immune lysis involving specific antibody and complement. There is no evidence, however, that properdin is an extra factor of complement.

Word List

1. immunity [i'mju:niti] n. 免疫
2. virulence ['viruləns] n. 病毒性, 致病力
3. efficacy ['efikəsi] n. 功效, 效验
4. animal ['æniməl] n. 动物; a. 动物的
5. species ['spi:ʃi:z] n. (单复同) 种类
6. absolute ['æbsəljʊ:t] a. 绝对的, 纯粹的,
完全的; n. 绝对
7. inability [inə'biliti] n. 无能, 无力, 不能
8. parasite ['pærəsait] n. 寄生虫, 寄生菌
9. insusceptibility ['insəseptə'biliti] n. 不受...
影响, 不容许
10. contact ['kɒntækt] n. 接触, 联系
contact with 与...接触中(联系)
11. antigen ['æntidʒen] n. 抗原
12. antibody ['æntibɒdi] n. 抗体
13. react [ri:'ækt] vi. 起反应, 起作用
14. agglutination [æglu:ti'neɪʃən] n. 凝集
15. sensitization [sensitai'zeɪʃən] n. 致敏(感)
16. phagocytosis [fægosai'təʊsɪs] n. 吞噬作用
17. lethal ['li:θəl] a. 致死的, 致命的; n. 致命因子
18. complement ['kɒmplɪmənt] n. 补体, 补足物, 余数;
v. 补充, 补足
19. complex ['kɒmpleks] a. 合成的, 复杂的;
n. 复杂, 合成物
20. entity ['entiti] n. 存在, 实体, 本质

21. least [li:st] a., n. 最小, 最少
at least 至少, 起码, 无论如何
22. resolve [ri'zɒlv] v. 分解, 解体, 解析, 消退, 决心
23. subcomponent ['sʌbkəm'pəʊnənt] n. 亚成分
24. fix [fiks] vt. 使凝固, 安装, 确定, 固定
25. sensitize ['sensitaiz] v. 敏感
26. lysis ['laisis] (复 lyses ['laisi:z]) n. 细胞溶解, 渐退, 松解术
27. apparently [ə'pərəntli] ad. 明显地, 表面上, 表现地
28. locus ['loukəs] (复 loci ['lousai]) n. 地点, 所在地, 轨迹
29. precursor [pri(:)'kə:sə] n. 前身物, 预兆, 先兆
30. esterase ['estəreis] n. 酯酶
31. enzymic [en'zaimik] a. 酶的, 酶促的
32. bacteriolytic [bæktəriə'litik] a. 溶菌的
33. unknown [ʌn'nəʊn] a. 未知的, 没被发现的, 陌生的
34. ingestion [in'dʒestʃn] n. 咽下, 摄食
35. phagocyte ['fæɡəsait] n. (吞) 噬细胞
36. lysozyme ['laisozaim] n. 溶菌酶
37. mucopeptide [mjuko'peptaid] n. 粘膜肽
38. synergistic [sinə'dʒistik] a. 增效的, 协助作用的
39. assist [ə'sist] v., n. 援助, 帮助
40. intracellular [intrə'seljulə] a. 细胞内的

41. neutralisation [nju:trəlai'zeɪʃən] n. 中和作用
42. viral ['vaɪərəl] n. 病毒的
43. attachment [ə'tætʃmənt] n. 连接物, 附件, 附加装置
44. susceptible [sə'septɪbl̩] a. 敏感的, 易受影响的
45. individual [ɪndɪ'vɪdʒuəl] n. 独立单位, 个体;
a. 个别的, 单独的, 独特的
46. unrecognized ['ʌn'rekəɡnaɪzd] a. 未被认出的,
未被承认的
47. demonstration [deməns'treɪʃən] n. 证明, 示范,
表明
48. define [di'faɪn] vt. 解释, 限定, 明确表示
49. properdin ['prəʊpədɪn] n. 备解素, 破坏素
50. antigenically [æntɪ'dʒenɪkəli] ad. 抗原性地
51. unrelated ['ʌnrɪ'leɪtɪd] a. 无关的, 无联系的
52. B. (bacillus) subtilis [bə'sɪləs 'sʌbtaɪlɪs]
枯草杆菌
53. amount [ə'maʊnt] n. 数量, 总数; vt.
合计, 等于
54. extra ['ekstrə] a. 额外的, 特大的;
ad. 特别地, 非常

Notes

1. as well as 是连接词, 连接介词短语 by the nature, dose and virulence of the infec-

ting organism 和介词短语 by the nature of the host and efficacy of the body defences. A as well as B 的结构中，重点在A，而不在B，例如：The child is lively as well as healthy 应译为“这小孩既健康，又活泼”。

2. relative to 译为“有关系的”或“相关的”，to 是介词，relative to … 作定语，修饰 immunity。
3. some 后省略和前面相同的部分 animal species。
4. or 连接 response 和 passage，这两个名词都是 (depend) on 的宾语。
5. agglutination 和 sensitization 都是 reactions 的同位语。
6. in the case of 译为“就…来说”或“至于”。in the case of certain Gram-negative bacteria 说明 action；in the case of Gram-negative and Gram-positive organisms 说明 ingestion 和 destruction。
either…or…为并列连词，连接 by the action… 和 (by the) ingestion and destruction…。
7. sensitized 为过去分词，作定语，说明 bacteria；介词短语 with antibody 作状语，说明 sensitized，to their surface antigens 也是状语，说明 sensitized。
8. with antigens cross reacting with those used for their demonstration 作定语，修饰 stimuli，这个介词短语连同它所修饰的 stimuli

译为“与检示菌有交叉反应的抗原的刺激”。

9. most 是付词，作状语，说明 studied。

LESSON EIGHTEEN

PULMONARY OEDEMA

Pulmonary oedema has been noted as a terminal event in many cachectic illnesses, but it seems to be specifically associated with heart disease, uraemia, traumatic damage to the brain and intracranial hemorrhage, and as a rare but dreaded event¹ during the removal of effusions from the peritoneal or pleural cavities. A more obvious and direct association is observed in cases of pulmonary infection and in people who have inhaled poisonous gases as an industrial accident or in war². It also occurs in patients with obstruction to the pulmonary veins by neoplasma.

Even though³ pulmonary oedema is seen in such a bewildering variety of clinical conditions, it runs a similar course in each. This does not necessarily mean that it has always a similar immediate cause. What is apparent is that any excess fluid formed in the alveoli brings more fluid out of the lung capillaries] In this way oedema in one part of the lung has a tendency to extend. In a fulminating form, the oedema

occurs so rapidly and is so intense that, within a minute or two of crying out in fear, the patient is drowned by the copious bloodstained fluid that pours into the respiratory passages and overflows frothing from the mouth and nose⁴. The course of the disorder may be as short as this⁵, it may however last for hours or days and is not necessarily fatal. In these more prolonged cases, the protein-containing fluid forms an excellent culture medium for the growth of bacteria. In this way infection and oedema are continuously reinforcing each other.

A research worker has described the special characters of pulmonary structure and function that predispose to a rapid extension of oedematous processes in the lung. He gives particular attention to the permeability of the lung capillaries, pointing out that they receive their oxygen supply largely from the alveolar air and not from the venous blood that they contain. Any fluid in the alveoli prevents adequate ventilation and leads to a low oxygen partial pressure in the alveolar capillaries. The consequent increase in permeability toward protein of those capillaries allows more oedema fluid to be formed. In this way a vicious circle is established. The fluid may spread through the

lung segments by way of⁶ the interalveolar pores. Since the oedema fluid collects in the alveoli there is no effective tissue pressure to oppose its accumulation⁷, as there would be, for example, in a limb⁸.

Word List

1. terminal ['tə:minl] a. 末端的, 末梢的;
n. 末端, 极限
2. event [i'vent] n. 事变, 事情, 活动
3. cachectic [kə'kektik] a. 恶病质的, 极度瘦弱的
4. uraemia [juə'ri:miə] n. 尿毒症
5. intracranial [intrə'kreiniəl] a. 颅内的
6. rare [ræə] a. 稀有的, 罕见的; 杰出的
7. dread [dred] n., v. 担心, 畏惧
8. effusion [i'fju:ʒən] n. 渗出物, 渗出, 喷出
9. peritoneal [peritou'ni:əl] a. 腹膜的, 影响腹膜的
10. pleural ['plu:rəl] a. 胸膜的
11. inhale [in'heil] vt. 吸入
12. poisonous ['pɔiznəs] a. 有毒的, 有害的
13. gas [gæs] n. 气体, 气态, 煤气
14. industrial [in'dʌstriəl] a. 工业的, 产业的
15. neoplasma ['ni:oplæzmə] n. 新生物, 瘤

16. bewilder [bi'wɪldə] vt. 把…弄糊涂, 使为难, 迷惑
17. fulminating ['fʌlmineɪtɪŋ] a. 暴发性的
18. intense [ɪn'tens] a. 剧烈的, 强烈的, 紧张的, 认真的
19. drown [draʊn] vt. 浸湿, 淹没
20. copious ['kʊpiəs] a. 大量的, 丰富的
21. bloodstained ['blʌdsteɪnd] a. 沾染着血的
22. pour [pɔ:] vi. 不断流出, 涌出
23. overflow [oʊvə'flaʊ] vi. 溢出, 充满
24. froth [frɒθ] v. 起泡沫; n. 泡沫
25. nose [noʊz] n. 鼻子, 嗅觉, 气味; v. 嗅, 闻
26. necessarily ['nesɪsərɪli] ad. 必定, 必然
27. prolong [prə'lɒŋ] vt. 延长, 拉长, 拖延
28. protein-containing ['prəʊtɪnkeɪn'teɪnɪŋ] a. 含蛋白质的
29. excellent ['eksələnt] a. 极好的, 杰出的
30. reinforce [ri:'ɪn'fɔ:s] vt. 增加, 加强, 支援
31. research [ri'sə:tʃ] n. 研究工作, 调查; v. 调查, 研究
32. structure ['strʌktʃə] n., vt. 组织, 构造
33. predispose ['pri:dis'pəʊz] vt. 使易感染, 使先倾向于
34. extension [ɪks'tenʃən] n. 牵伸, 扩大, 延长
35. oedematous [i'demətəs] a. 浮肿的, 水肿的
36. permeability [pə:'mjə'bɪlɪti] n. 渗透, 渗透性, 渗透度

37. contain [kən'tein] vt. 包含, 等于, 控制
38. ventilation [venti'leiʃən] n. 通风, 通风设备
39. partial ['pɑ:ʃəl] a. 部分的, 不完全的
40. alveolar [æl'viələ] a. 肺泡的, 小泡的, 牙槽的
41. consequent ['kɒnsikwənt] a. 随之发生的, 作为
...结果的
42. spread [spred] (spread, spread) v. 传布, 伸
展, 散布
43. pore [pɔ:] n. 孔, 毛孔, 气孔, 细孔
44. oppose [ə'pouz] vt. 使...对立, 反对, 反抗
45. interalveolar [intəæl'viələ] a. 肺泡间的

Notes

1. as a rare but dreaded event 译为“作为一种稀有, 但是可怕的结果”, 和 as a terminal event 同样是介词短语, 作主语补足语; 形容词 rare 和过去分词 dreaded 用 but 连接, 一起作名词 event 的定语。
2. who 引出定语从句。修饰 people。介词短语 as an industrial accident 和 in war 用 or 连接, 都作状语, 说明从句中的谓语 have inhaled。
3. even though 译为“即使”或“尽管”, 引出让步状语从句。
4. so...that...译为“这样...以致...”, 或“如此...使得...”, 引出结果状语从句。that pours into the respiratory passages and overflows frothing from the mouth and nose 为定

语从句，修饰 fluid。

5. as...as...译为“和…一样”参阅第二册第149页。

6. by way of...译为“经由…”或“通过…”，是复合介词。

7. Since the oedema fluid collects in the alveoli there is no effective tissue pressure to oppose its accumulation 译为“因为水肿液体是在肺泡里汇聚的，所以没有足够的组织压来阻挡它的聚积”。since 译为“因为”或“既然”，引出原因状语从句。

8. as there would be, for example, in a limb 译为“不象在四肢中的情况那样”。as 引出方式状语从句（参阅第二册第148页）；would 表示习惯性。