



Al-Mustaqbal University
College of Science
Forensic Evidence Department
Second Stage



جامعة المستقبـل
AL MUSTAQBAL UNIVERSITY

كلية العلوم
قسم الادلة الجنائية

Lecture (3)

عنوان المحاضرة

(Histology of Connective Tissues)

المادة : انسجه عملي .

المرحلة : الثانية .

اسم الاستاذ: م.م بشرى حسين عطية .



Connective tissues

Connective tissue originates from a tissue called Mesenchymal tissue, which in turn originates from the Mesoderm, and in addition to the function of connective tissue to bind different parts of the body, it also works to support different parts of the body so it is also sometimes called (supporting tissue).

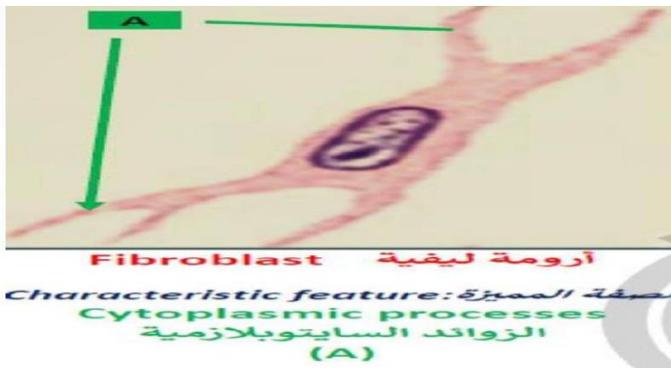
The connective tissue generally consists of three main components: -

1. Cells
2. Fibers
3. Much of the basic substance.

Cells of connective tissue

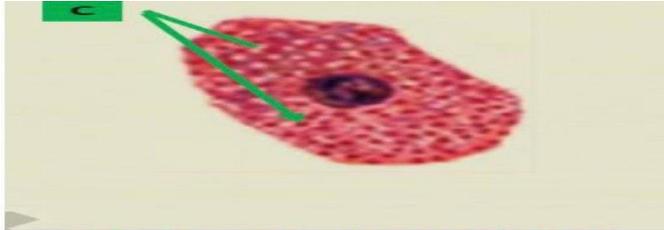
1. Fibroblast

They are observed in Areolar connective tissue and are branched out, light in color cytoplasm, large and oval nucleus, also found in Mucoïd connective tissue.



2. Mast cell

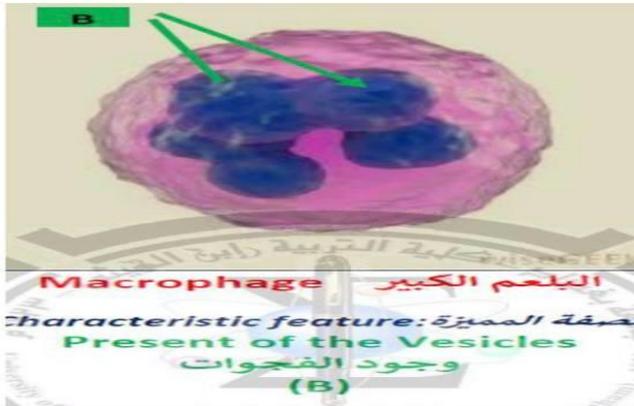
Also found in the areolar connective tissue and near to the blood vessels, this cell is oval but has irregular boundaries and the nucleus is almost centrally located and small in size compared to the over all size of the cell and difficult to distinguish because cytoplasm cell is filled with large granules and small dark color pigmented basal pigments.



Mast cell الخلية البدينة
Characteristic feature: صفة المميزة
Regular cytoplasmic basophilic granules
الحبيبات الساييتوبلازمية المنتظمة
(C) القاعدية

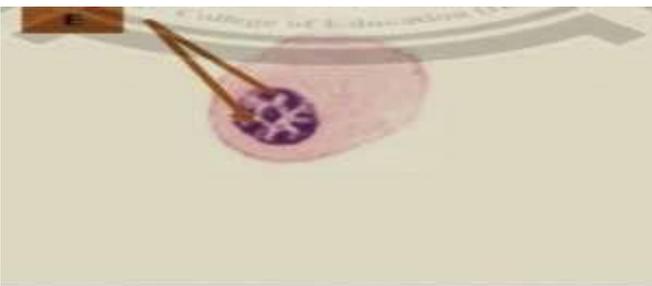
Other types of cells are:

3-The macrophage



Macrophage البلعم الكبير
Characteristic feature: صفة المميزة
Present of the Vesicles
وجود الفجوات
(B)

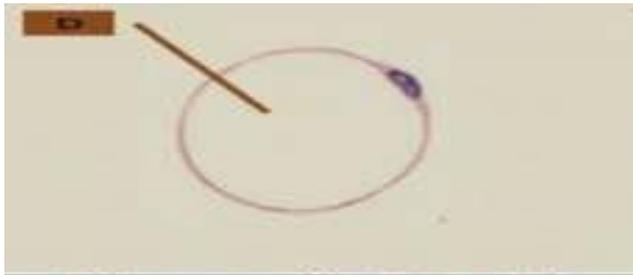
4 - Plasma cell



Plasma cell خلية البلازما
Characteristic feature: الصفة المميزة
Chromatin distribution appear as Clock's-shaped
توزيع الكروماتين يظهر بشكل يشبه الساعة
(E)



5 - Fat cell: The cell is characterized by being spherical in shape with a compressed nucleus on the side of the cell and contain large vacuole.



Adipose cell خلية دهنية
Characteristic feature: الصفة المميزة
Fat droplet قطيرة الدهن
(D)

7- Mesenchymal cell.

8 - Reticular cell : characterized by protrusion that communicate with the protrusion of neighboring cells.

9. Leukocytes



Fibers of connective tissue:

1. Whites or collagenous fibers:



There are wavy bundles. These bundles may be branched and of a soft and strong nature, but they are not elastic and can be observed in a section of the areolar connective tissue.

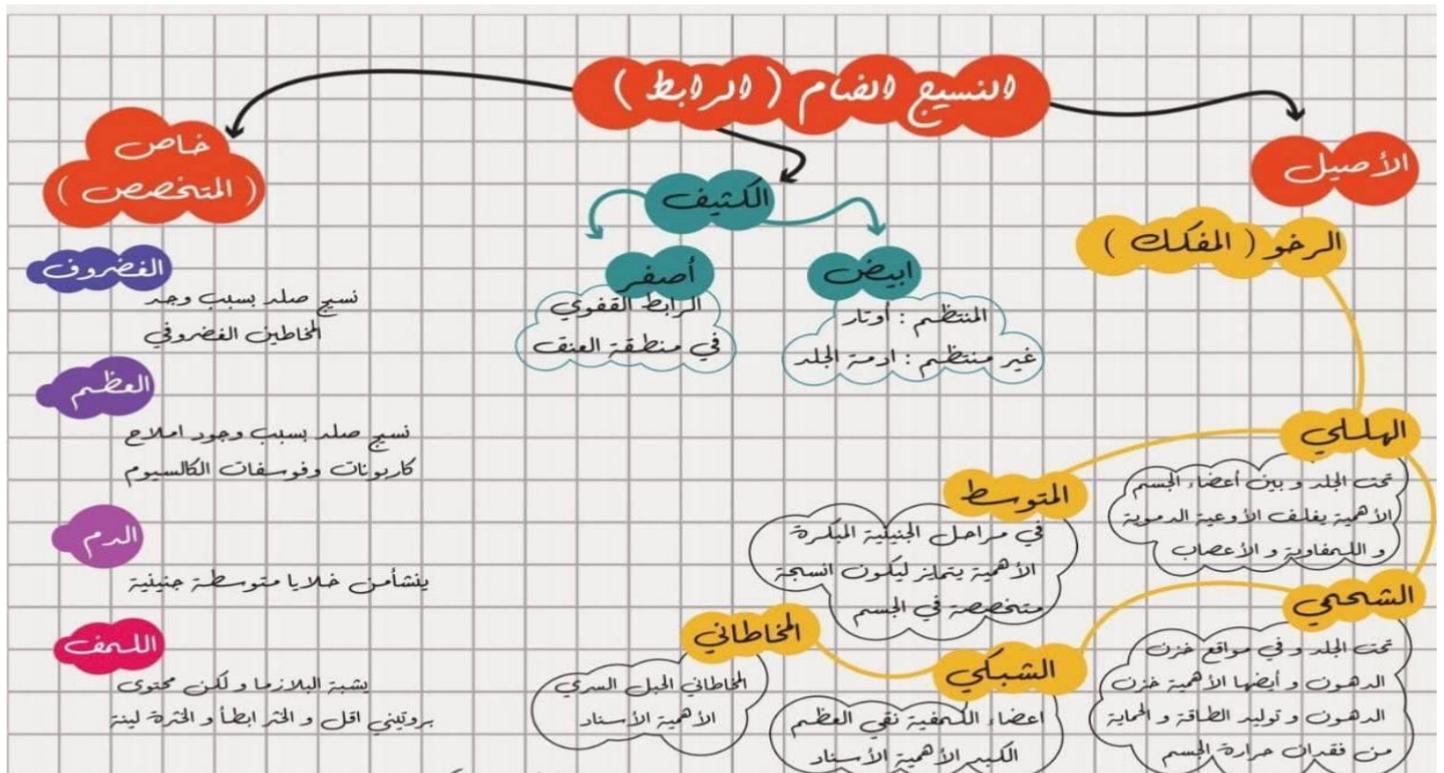
2. Yellow or elastic fibers:

There are in the form of single fibers and do not form a wavy and be long and branched and is of a elastic nature and easy to expand for this is called elastic and called yellow because it imparts a yellow color to the soft tissue when it is found in large quantities, these fibers may be found in the areolar connective tissue .

3-Reticular fibers:

Thin fibers branch out and intertwined, forming what looks like a network, appear under the electron microscope composed of fibers similar to the fibers of white fibers, and therefore can be considered young white fibers incomplete composition, especially as this type of fiber is the first types of fibers appeared in the fetus, this type of fiber can be observed In the lymph node.

-Substance: Substantial material that varies from half liquid to a solid , gelatin and transparent and homogeneous in which fibers and cells are submerged.





1-Areolar connective tissue:

There are in many areas of the body it is found in mesenteries and contains most of the components of connective tissue can be observed fiber white, yellow, fibroblast and mast cell and others.

2. Mucoïd connective tissue :

It is found in the Umbilical cord and contains few white and yellow fibers and star cells with protruding fibroblasts.

3-Reticular connective tissue:

Found in the Lymph node sections contain reticular fibers as well as reticulocyte-forming like the net .

4. Adipose connective tissue:

It can be seen in sections in the Hypoderms, most of which are composed of fat cells.

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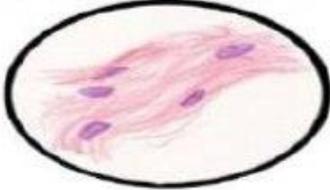
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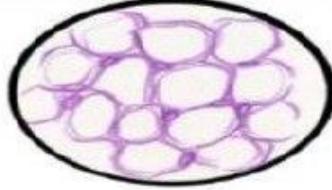
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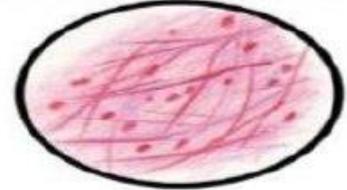
**Dense
Connective Tissue**



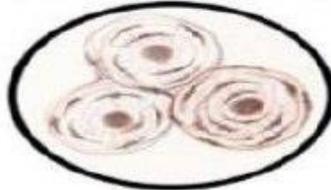
**Adipose Tissue
(Connective Tissue)**



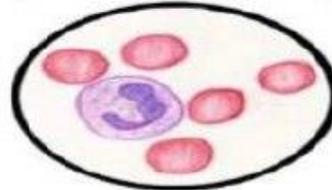
**Areolar Tissue
(Connective Tissue)**



**Compact Bone
(Connective Tissue)**



**Blood
(Connective Tissue)**



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