Host-Pathogen Interaction (Immunology)
Prof. Himanshu Kumar
Laboratory of Immunology and Infectious Disease Biology
Department of Biological Sciences
Indian Institute of Science Education and Research (IISER) - Bhopal

Lecture: 8
An Introduction of immune organs

Hi, in this session we will discuss about various lymphoid organ as you have seen in previous session we have discussed the some unique properties of immune system and we also learned about how this innate and adaptive humidity collaborate and work together in order to develop appropriate immune response to eliminate the pathogen. And in this session we will discuss about various immune organ although most of our cells they play an important role in defence against any microbial pathogen.

However there are some specialized organ which is playing a very important role in our defence system or immunity.

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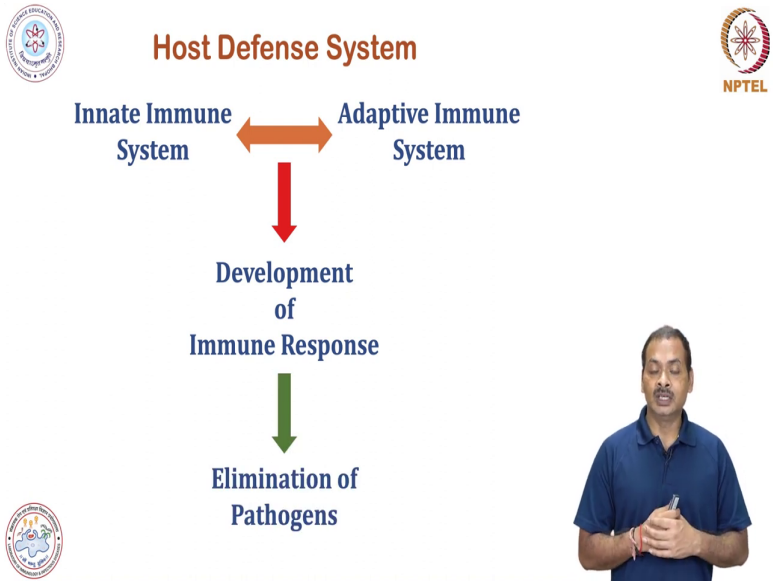

So, so the most of these organ we call it as a lymphoid organ and these lymphoid organs are mainly is a site for the generation of immunocompetent immune cell and over there these cells are generated and then they will mature and then eventually it will become a naive immunocompetent immune cell. And once these cells are generated they also move to some organ where they look at the antigen and then they will develop the antigen specific immunity.

So, this is a overall what I want to say about the lymphoid organs. So, lymphoid organs are basically two major kind one is primary or Central lymphoid organ and this these organs are basically the site for the generation of immunocompetent immune cells or lymphocytes where these cells will mature and then these cells will move to the another sitede where they will see the antigen.

And the another organ where they moved we call it as a secondary or peripheral lymphoid organ and this secondary and peripheral lymphoid organs are basically located in different parts of the body or throughout the body you will see in a short while. And over there they will see this antigen and then they will basically induce the appropriate immune response. And then this all this responses can also move through a very specialized vessel we call it as a lymphatic vessel and then the immune system will be established.

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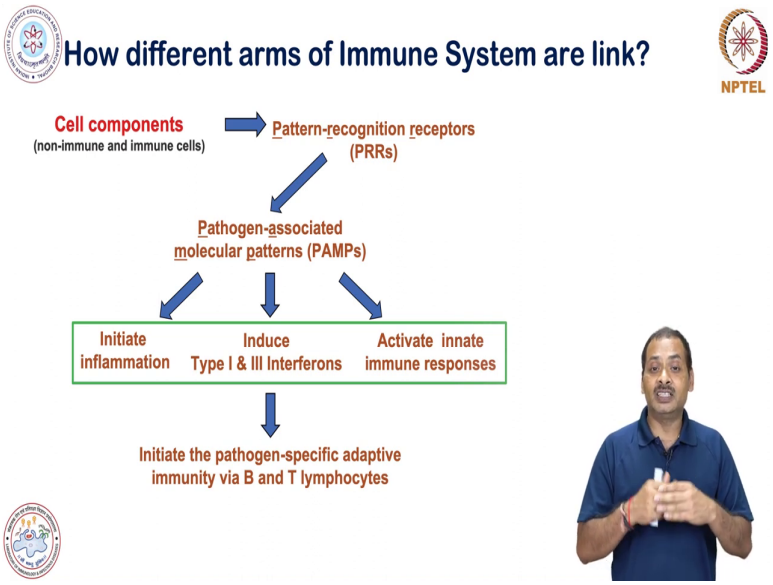

So, what are these lymphoid organ. So, this immune system is started immediately after conception when the when the baby is in development stage or prenatal stage. So, in after a one after one week this yolk sac you know this is the organ this yolk sac is a formed and this yolk sac is a site for the development of blood cells and in addition this is a site for the development of immune cells and these immune cells basically take care of the developing foetus immunity besides the mother immune responses.

So, after a week in three months time this whole immune related or immune cell production and all those things are taken over by the fetal liver and from there this protection or

development of immune cells are taking place in order to give the protection to the foetus. And later on after seven months this is taken over by the spleen and immediately after birth the whole defence~~ifference~~ thing or generation of immunocompetent cells are taken over by the bone marrow. And in next session I will discuss in great detail about this bone marrow.

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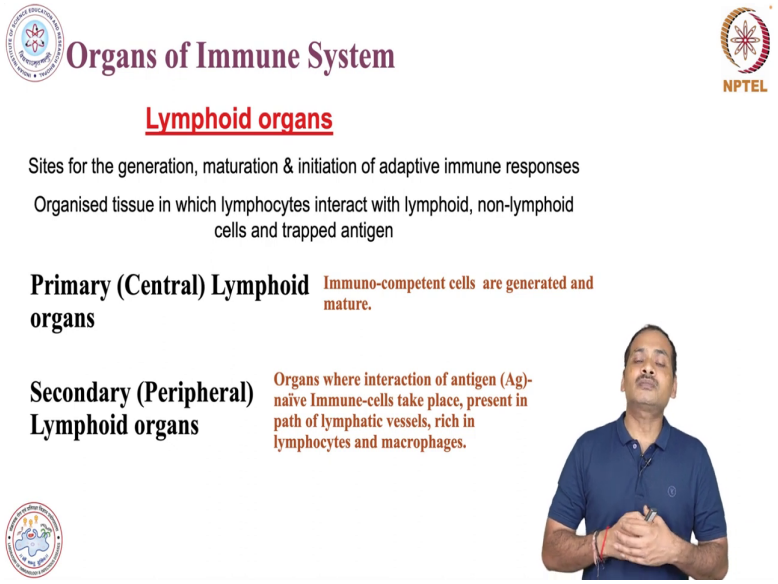

So, in adult human the immune the primary and secondary lymphoid organs are basically these are the key primary lymphoid organ the first is the thymus which you can see which is just located close to the heart and there is a bone marrow you can see this bone marrow basically bone marrow is present in all~~oral or~~ long bones and over there in these two organs there is a generation of immune cell.

So, there are so, many development processes after all this development there will be a generation of immunocompetent naive immune cells. So, this is all about the primary lymphoid organ and the secondary lymphoid organs are again various one is the lymph node and this lymph node is scattered throughout our body. These are basically a bean shaped~~aved~~ structure and this plays ~~a~~ extremely important role in defence or generation of or interaction of immunocompetent in lymphocytes with the antigen.

And another the most important organ of immune system is or secondary lymphoid organ is the spleen. So, spleen is a very important immune organ besides it is playing a very important role in RBC maintenance because you may know that this RBC are all defective or all old RBC's are destroyed in the spleen. Beside this is playing a very important role in development of immunity.

We will discuss all these thing in great detail in subsequent session. And there are another lymphoid organ which we call it as a mucosal Associated lymphoid tissue or organ we can call it. So, this is also scattered throughout the mucosal surfaces. It includes the gut it includes eurogenital tract it also the nasal track is also comes under the mucosal associated lymphoid tissue. So, here I just gave you the overview of lymphoid organs.

In next session we will discuss all these organ in great detail we will discuss about the structure or what are the composition and how it is playing important role in defence, thank you thank you very much.