The SAP scan

Treatments and tests in AL amyloidosis Infosheet

This Infosheet explains what a SAP scan is, how it works and why it is used in AL amyloidosis.

What is SAP?

Serum amyloid P component (SAP) is a normal protein found in the blood that binds to amyloid deposits. In people without AL amyloidosis there are very small amounts of SAP, and this is only present in the blood. In AL amyloidosis patients, in addition to the small quantities of SAP in the blood, there are large quantities of SAP coating the amyloid deposits in the affected organs.

The SAP scan is available at the National Amyloidosis Centre, London, and is performed routinely in most patients who are referred there for evaluation of AL amyloidosis.

How does the SAP scan work?

The SAP scan uses the SAP coating on amyloid deposits to determine where and how much amyloid has been deposited in the organs.

In a laboratory, a small amount of SAP is tagged with a radioactive iodine tracer. This tracer emits a small radioactive signal which

can be detected outside the body with a piece of equipment called a gamma camera.

The tagged SAP is injected into the patient and binds to amyloid deposits within the organs of the body.

The scan to detect the radioactive signal from the SAP is performed several hours later. This shows where in the body the SAP is located and therefore the amount and location of amyloid deposits within the body.

Unfortunately, hollow or moving organs such as the gut (stomach or intestines) and the heart cannot be assessed reliably by the SAP scan. However, it is still important to look for amyloid in other organs in patients who have known or suspected amyloid in their gut or heart. Amyloid in skin and nerves also may not be clearly shown by the scan.

What happens during the scan?

Before you are injected with the tagged SAP, you will be given a drink of potassium iodide. This is a a natural mineral that reduces the amount of radiation absorbed into your body.

The tagged SAP is injected into a vein. The SAP then disperses in the body and coats any amyloid deposits. This can take a number of hours so the scan is performed several hours after the injection, or the next day.

It is advisable to drink plenty of fluid between the injection and the scan unless you have been told to restrict your fluid intake. However, you should empty your bladder before the scan.

The scanner is an open device on which you lie, fully clothed, for about 40 minutes.

After the scan you will need to take potassium iodide twice a day for two days.

Is the SAP scan safe?

The amount of radiation is similar to that of a routine X-ray. The radiation dose is minimised by giving potassium iodide before the procedure.

The SAP protein itself has been purified from healthy blood donors. It has been tested and treated, to minimise any risk of infection or contamination. This is done with all donated blood products.

Why is the SAP scan used?

The SAP scan can show the amount and location of amyloid around the body. This reduces the need for invasive procedures, such as biopsies. Most patients with AL amyloidosis have at least some amyloid in more than one organ, even when those organs appear to be functioning normally. This will include organs that have not been biopsied (or where a biopsy is not possible). Amyloid can be unevenly distributed within organs, and this can also be detected by the SAP scan. As well as detecting where amyloid is around the body, the SAP scan can measure the total amount of amyloid in the body (known as the 'amyloid load').

The SAP scan can provide a whole body overview, and can monitor changes in the amount of amyloid and response to treatment over months and years. In this way, the SAP scan has reduced the need for biopsies to monitor the disease. The SAP scan may be repeated every 6 to 12 months to monitor the amount and location of the amyloid deposits and therefore help guide the need for ongoing treatment.

Through the use of the SAP scan it has been found that amyloid deposits often decrease and breakup when the underlying plasma cell disease is controlled. This is usually accompanied by an improvement in general health.

Key points

- SAP is a protein that is naturally present in everyone, but it is present in large amounts on amyloid deposits
- The SAP scan is used to show where amyloid deposits are present in the body
- A small amount of SAP (from healthy blood donors) is tagged with a radioactive tracer, and injected
- The tagged SAP binds to amyloid deposits, and shows where they are located
- Repeat SAP scans can show how the amount of amyloid changes over time
- The dose of radioactivity used is low, and the procedure is painless and straightforward
- The scan cannot detect amyloid in all organs, but it does reduce the need for biopsies
- SAP scans are done at the National Amyloidosis Centre in London
- You will normally have a SAP scan at the time of diagnosis, and every 6 to 12 months afterwards

About this Infosheet

The information in this Infosheet is not meant to replace the advice of your healthcare team. They are the people to ask if you have questions about your individual situation.

For a list of references used to develop our resources, visit **myeloma.org.uk/references**

We value your feedback about our patient information. For a short online survey go to **myeloma.org.uk/pifeedback** or email comments to **patientinfo@myeloma.org.uk**

Other information available from Myeloma UK

Myeloma UK has a range of information booklets available covering all aspects of AL amyloidosis, its treatment and management. Download or order them from **myeloma.org.uk/publications**

To talk to one of our Information Specialists about any aspect of AL amyloidosis, call the Myeloma UK Infoline on **0800 980 3332** or **1800 937 773** from Ireland.

The Infoline is open from Monday to Friday, 9am to 5pm, and is free to phone from anywhere in the UK and Ireland.

Information and support about AL amyloidosis is also available around the clock at **myeloma.org.uk/amyloidosis**

Notes

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MyelomaUK

We're here for everything a diagnosis of AL amyloidosis brings

Get in touch to find out more about how we can support you

Call the Myeloma UK Infoline on
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