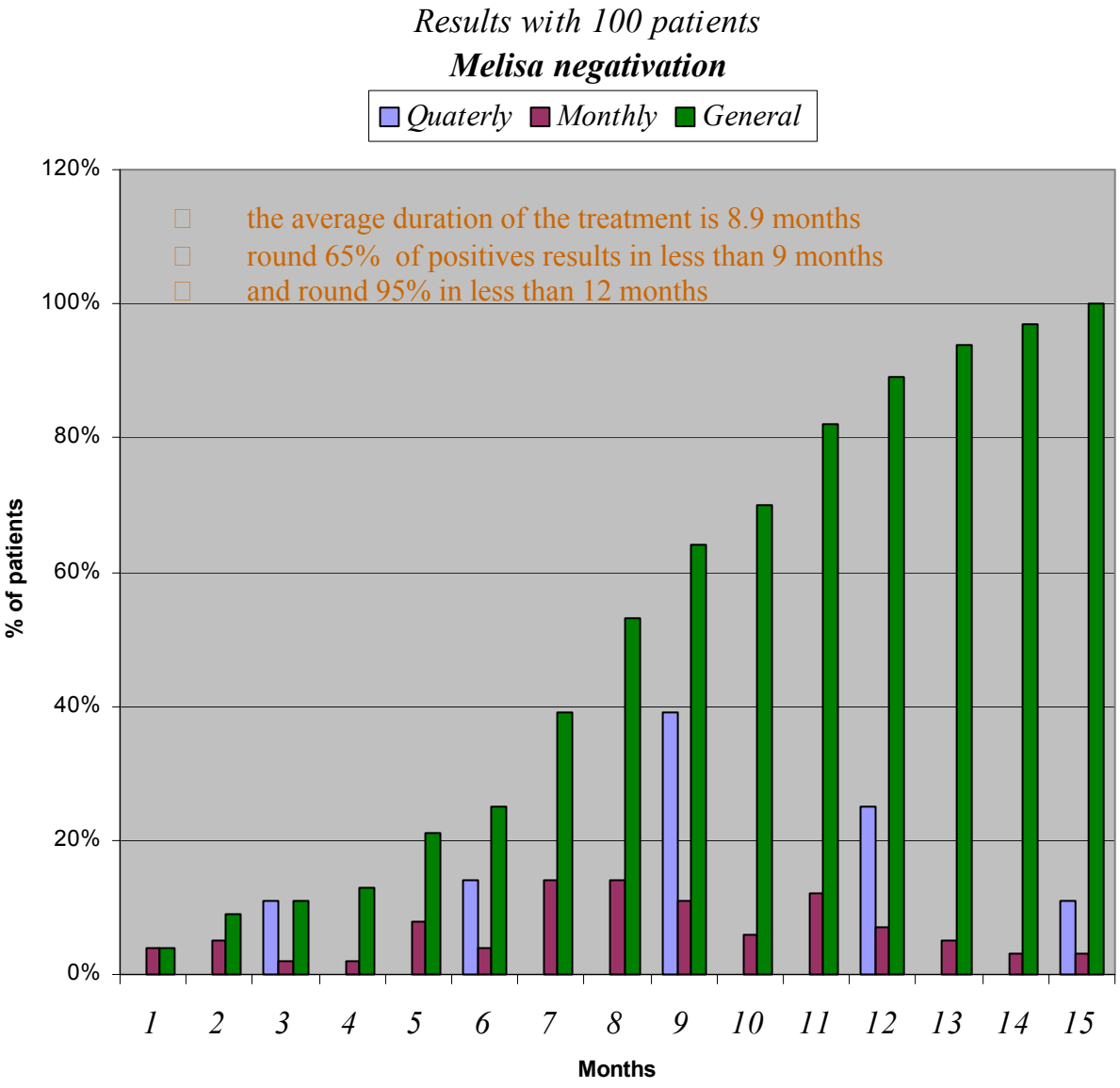
S&P Laboratories

Adress : Venelle de Sart, 8 - 1300 Wavre - Belgium
Tel : +32 (0)10 245772 - **Fax** : +32 (0)10 246676
Web : www.labosp.com
E-mail : info@labosp.com

TMD Toxic Metal Detox

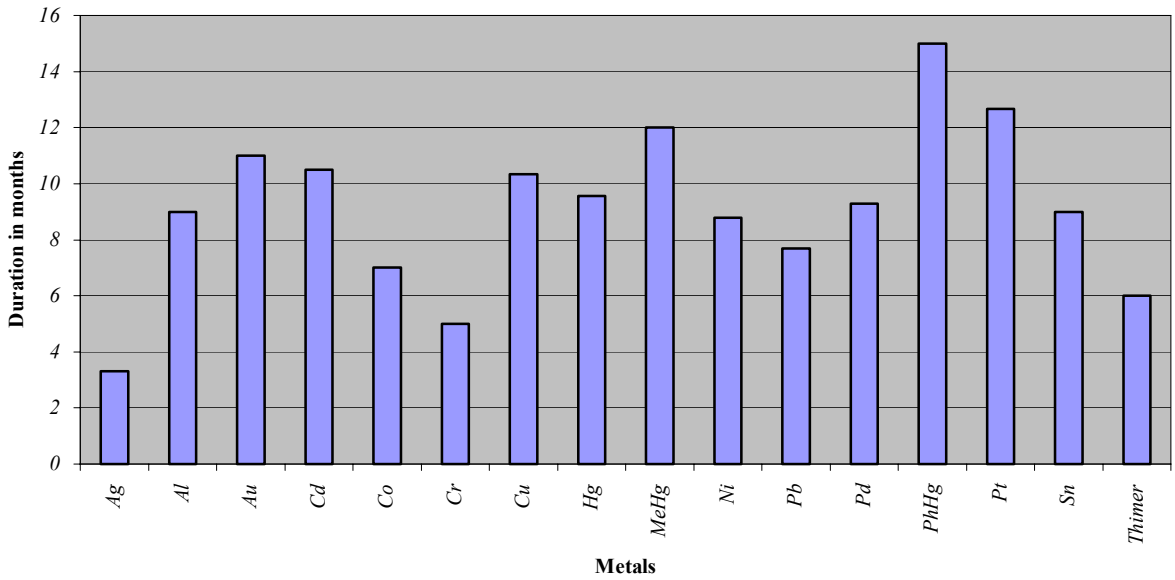
- **Use : heavy metal intoxications**
- **Results**



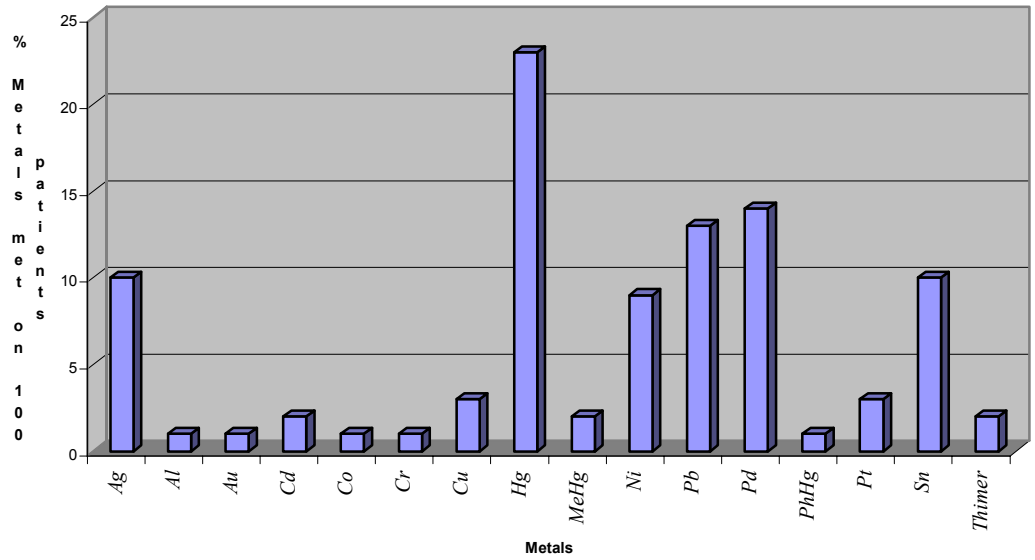
S&P Laboratories

Adress : Venelle de Sart, 8 - 1300 Wavre - Belgium
Tel : +32 (0)10 245772 - **Fax** : +32 (0)10 246676
Web : www.labosp.com
E-mail : info@labosp.com

Duration of treatmant for each metal



Récurrence of the metals met, in %



S&P Laboratories

Adress : Venelle de Sart, 8 - 1300 Wavre - Belgium
Tel : +32 (0)10 245772 - **Fax** : +32 (0)10 246676
Web : www.labosp.com
E-mail : info@labosp.com

- **Composition**

GSH (reduced glutathione), Lipoic acid (tiotic), SOD (50U/g), Selenomethionine (Se 40%), Vitamin E (DL-alpha-tocopherol), Picnogenol (OPC extract of grape seed), Vitamin B2 (Riboflavin), Mycelium shitake (atomized), willow extract

- **How the various components work**

α–lipoic acid :

This is an octanoic acid, i.e. a fatty acid, whose carbon 6 and carbon 8 hydrogen atoms are replaced by a disulphuric bridge (-S – S-). It is part of the vitamin B group and its role is vital in the energy metabolism. It is a co-factor in pyruvate dehydrogenase and is found in reduced form with two –SH after carrying out its catalytic role at the Krebs cycle level.

Lipoic acid is a very powerful anti-oxidant but can also be used to detect toxic metals because of its two thiol groups.

GSH :

Glutathione^{B} is a tripeptid – γ glutaminacysteinilglycine – co-factor in the destruction of free radicals of oxygen (OFR).

In cases of poisoning by metals its activity is blocked.

In addition, toxic metals inhibit the metabolism of the mitochondria whose role is to reduce the content of oxygen in water.

The inhibition of the metabolism of the mitochondria leads to the formation of OFR.

The addition of reduced glutathione (GSH) keeps the OFR at a normal level.

It should also be noted that GSH is involved in the synthesis of prostaglandin H2, thus regulating inflammation.

Adress : Venelle de Sart, 8 - 1300 Wavre - Belgium
Tel : +32 (0)10 245772 - **Fax** : +32 (0)10 246676
Web : www.labosp.com
E-mail : info@labosp.com

Selenomethionine and Vit.E

Where hydrogen peroxide accumulates, selenium, a co-factor in membrane and cytoplasm glutathione peroxidase, is indispensable for the formation of a reservoir of glutathione in the form of glutathione disulfide (GSSG).

The cell can once more be fed with GSH via the action of glutathione reductase.
Selenium allows the formation of a « GSH-heavy metal » complex such as GS-Hg-SG which blocks the vital activity of GSH.

The choice of selenium associated with methionine is motivated by the fact that methionine is an essential precursor amino acid for cysteine, another indispensable amino acid for the proper structure of proteins. In the presence of toxic metals, cysteine becomes unavailable because it is an amino acid with a thiol function (-SH) very similar to that of metals.

The presence of vitamin E, a liposoluble vitamin, prevents the oxidation of fatty membrane acids.

SOD

This enzyme is found in the mitochondria and in the cytoplasm.
Its role is to destroy superoxide anions.

The cofactors of SOD are the oligo-elements Mn-Zn and Cu.
Toxic metals such as Cd and Hg displace these oligo-elements and inhibit the activity of the superoxide dismutase.

Pycnogenol

Pycnogenol is a mixture of flavonoids rich in polyphenols and proantocyanidines.
Pycnogenol has numerous interesting functions from the biological point of view: its components are anti-radicals and have a much longer active

Adress : Venelle de Sart, 8 - 1300 Wavre - Belgium
Tel : +32 (0)10 245772 - **Fax** : +32 (0)10 246676
Web : www.labosp.com
E-mail : info@labosp.com

half-life than vitamins C and E, and also can be used to treat inflammation.

The hydrosoluble active principles of pycnogenol cross the cephalo-meningeal barrier protecting the central nervous system from the effects of toxic metals involved in the etiology of some degenerative nervous diseases.

The addition of pycnogenol also enables regeneration of the ascorbyl group (vit C) ^{C} and protects GSH against oxidant stress.

Vitamin B2

Riboflavin, in the form of FAD, is the vitaminic co-factor in cytochrome-C-oxidase.

This enzyme located in the mitochondria at the end of the respiratory chain eliminates any remaining free radicals not destroyed upstream.

Mycelium shitake:

allows passage through the cell wall, has a nutritional and revitalising action, breaks metallic bridges existing at enzyme and protein levels; some Japanese studies have shown an important immuno-stimulatory function.

Willow (Salix alba)
Has anti-inflammatory and dechelatory properties.

- A box of 60 capsules.
- Recommendations for administration: 1 capsule twice a day during meals, for a period of at least 3 months