

Giant Spider Crabs and Erectile Dysfunction

by Lloyd Borrett, The Scuba Doctor Australia, 16 June 2019.

Abstract

Erectile dysfunction (or impotence) is a man's inability to get or keep an erection that allows sexual activity with penetration. Erectile dysfunction is not a disease, but a symptom of some other problem – physical, psychological, or a mixture of both.

A recent long-term study by the research team at The Scuba Doctor Australia has shown conclusively that the eating of Giant Spider Crabs (*Leptomithrax gaimardii*) meat can be a significant contributor to both short- and long-term erectile dysfunction.

Erectile dysfunction can have deleterious effects on a man's quality of life; most patients have symptoms of depression and anxiety related to sexual performance. These symptoms, in turn, affect his partner's sexual experience and the couple's quality of life.

Causes of Erectile Dysfunction

The erect penis has always been a symbol of a man's virility and sexual prowess. Although it is not a lethal condition, the interest surrounding erectile dysfunction and its remedies has been constant throughout the ages.

Doctors used to think that erectile dysfunction was mainly caused by psychological factors, such as anxiety or depression. However, current evidence suggests that more than 80% of cases have an organic aetiology. In fact, most cases of erectile dysfunction are caused by physical illness. Psychological problems cause only one in ten cases of persistent erectile dysfunction.

Physical erectile dysfunction typically happens over a period of months or years and is often a gradual loss of function. If erections still occur spontaneously overnight, or in the morning, the problem may be psychological.

Erectile dysfunction can be due to:

- **physical illness** – erectile dysfunction is often associated with conditions that affect blood flow in the penis, such as: diabetes, high cholesterol, high blood pressure, cigarette smoking, obesity, heart disease and multiple sclerosis
- **psychological factors** – a man's sexual drive or performance can be affected by stress such as problems at work, relationship difficulties or financial worries. Psychiatric conditions, and feeling depressed or anxious about poor sexual performance can also result in erectile dysfunction

- **a combination of physical illness and psychological factors** – physical problems with maintaining an erection may cause the man to feel anxious about sexual performance, which makes the problem worse
- **medications** – prescribed medicines used to treat high blood pressure, high cholesterol, depression and psychiatric disorders, and prostate disease, may cause or worsen the symptoms of erectile dysfunction
- **unknown** – in a few cases, neither physical nor psychological causes are obvious. Vascular disease is likely to be the underlying cause in these cases.

Epidemiology

Numerous studies overseas explored the epidemiology of erectile dysfunction by considering different settings and populations that had eaten Giant Spider Crab meat. The studies all showed there was a contributing factor to the cause of erectile dysfunction, especially in Asian male populations. The eating of Giant Spider Crab leg meat and soups were both shown to be highly problematic.

Ingesting the compounds found in Giant Spider Crab meat was shown to have an impact on erectile dysfunction within hours. The symptoms could last for a week, and up to a month in some extreme cases. It has been shown that compounds present in Giant Spider Crab meat has an impact effectively the opposite to Viagra, a pill used to treat factors contributing to erectile dysfunction.

The results were shown to be the same across many regions of the world, even though the species of Giant Spider Crab varied from region to region.

However, no study had been done using the meat of the Giant Spider Crab (*Leptomithrax gaimardii*) species native to Southern Australia.

The Scuba Doctor Australia conducted a five-year study into the effects of eating Giant Spider Crab (*Leptomithrax gaimardii*) meat on erectile dysfunction considering different settings and populations. What emerged from this study is a systematically higher prevalence of erectile dysfunction resulting from the eating of the meat of this species.

The study included men from 18 to 65 years of age. It found that the impact on erectile dysfunction by eating the Giant Spider Crab meat on men under 45 years of age was more severe. It is likely this had a psychogenic basis, given the components of distress and discomfort that are brought by the onset and persistence of erectile dysfunction and by problems related to sexuality. Such components include anxiety and alexithymia (lack of emotional awareness) and even the possibility that, perhaps especially in younger patients, erectile dysfunction can be both a symptom and a sentinel marker of serious organic problems.

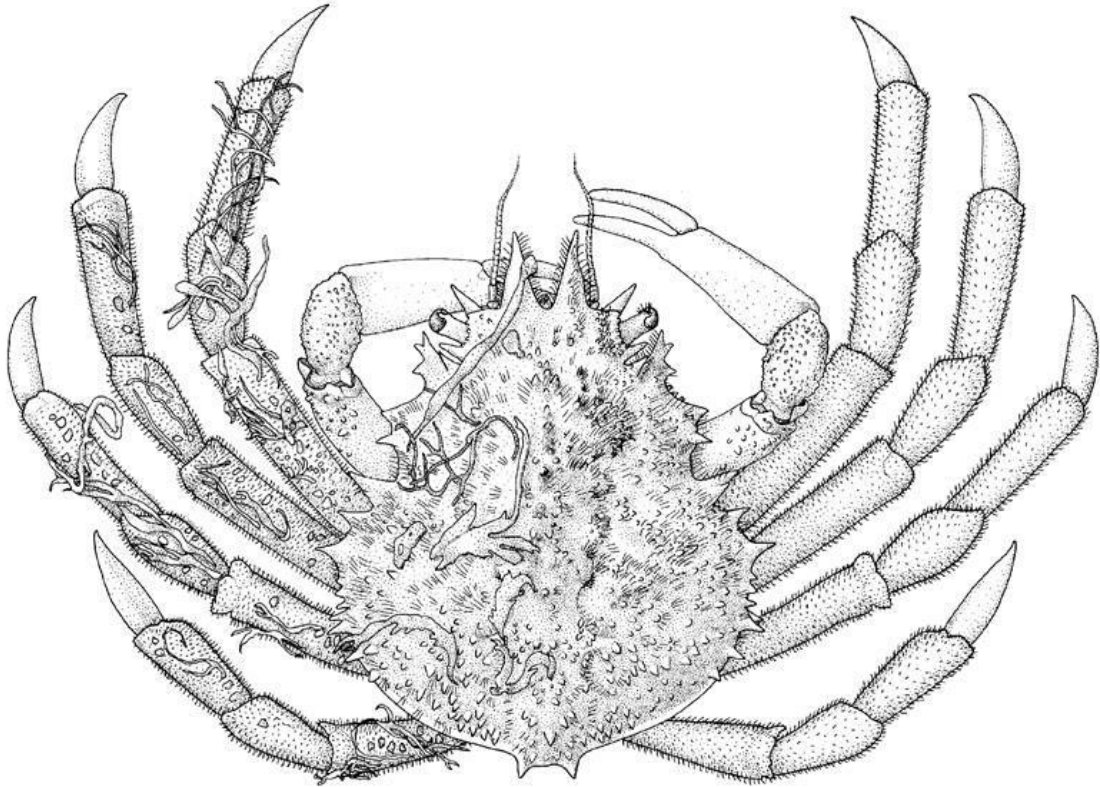


Figure 1: Giant Spider Crab, *Leptomithrax gaimardii*, dorsal view. Image by: Kate Nolan, Museum Victoria

Mechanisms / Pathophysiology

The penis remains in its flaccid state when the smooth muscle is contracted. The smooth muscle contraction is regulated by a combination of adrenergic (noradrenaline) control, intrinsic myogenic control and endothelium-derived contracting factors (prostaglandin and endothelins). Upon sexual stimulation, erection occurs after nitric oxide (NO) is released from non-adrenergic noncholinergic (NANC) nerve fibres and acetylcholine is released from parasympathetic cholinergic nerve fibres; the result of the ensuing signalling pathways is increased cyclic GMP (cGMP) concentrations, decreased intracellular Ca^{2+} levels and smooth muscle cell relaxation. As the smooth muscle relaxes, blood is able to fill the lacunar spaces in the corpora cavernosa, leading to compression of the subtunical venules, thereby blocking the venous outflow (veno-occlusion). The process is reversed as cGMP is hydrolysed by phosphodiesterase type 5 (PDE5). Erectile dysfunction can occur when any of these processes is interrupted.

It has been shown that ingesting the compounds found in Giant Spider Crab meat has significant impact on all **Noendocrine Causes** of erectile dysfunction.

Neurogenic erectile dysfunction is caused by a deficit in nerve signalling to the corpora cavernosa. Such deficits can be secondary to, for example, spinal cord injury, multiple sclerosis, Parkinson disease, lumbar disc disease, traumatic brain injury, radical pelvic surgery (radical prostatectomy, radical cystectomy, abdominoperineal resection) and diabetes. The structural changes caused by the compounds contained in Giant Spider Crab meat centre on apoptosis of the smooth muscle and endothelial cells of the blood vessels, as well as upregulation of fibrogenetic cytokines that lead to collagenisation of the smooth muscle. These changes result in veno-occlusive dysfunction (venous leak).

Vasculogenic erectile dysfunction causes include vascular disease and endothelial dysfunction which lead to erectile dysfunction through reduced blood inflow, arterial insufficiency or arterial stenosis. Vasculogenic erectile dysfunction is by far the most common aetiology of organic erectile dysfunction. Indeed, erectile dysfunction can be a manifestation of an underlying vascular disorder. The compounds in Giant Spider Crab meat were found to cause a restriction of the blood vessels resulting in vasculogenic erectile dysfunction. Longer term studies are required to determine if long term exposure to these compounds could result in arterial wall changes (decreased elasticity) which can lead to arterial stenosis and compound the vascular injury.

Iatrogenic erectile dysfunction is most often caused by radical pelvic surgery. Generally, the damage that occurs during these procedures is primarily neurogenic in nature (cavernous nerve injury) but accessory pudendal artery injury can also contribute. Pelvic fractures can also cause erectile dysfunction in a similar manner, owing to nerve distraction injury and arterial trauma. The compounds found in Giant Spider Crab meat have been shown to cause such nerve injury. Further studies are required to determine if the damage is short term or long term.

Endocrine erectile dysfunction caused by androgens are considered the major hormonal regulator of penile development and physiology. The compounds in Giant Spider Crab meat cause a decline of androgen levels. Further studies are required to determine if there are longer term impacts on both hypogonadism and erectile dysfunction.

Effects on smooth muscle cells in all animal studies support the idea that castration (reduction in testosterone levels) causes a rapid drop in intracavernous pressure, owing to both reduced arterial inflow and altered veno-occlusion during stimulated erections — castration is associated with a rapid reduction in neuronal nitric oxide synthase (nNOS) and pelvic ganglion activity. It has been shown conclusively that the compounds in Giant Spider Crab meat have similar effects to chemical castration. Further studies are required to determine if the damage is long term or short term.

Treatment for Erectile Dysfunction

There are many treatments for erectile dysfunction. These include:

- changing your prescription medication if it is the cause
- psychotherapy and counselling
- oral medication (tablets) such as Viagra®, Cialis® and Levitra®
- external vacuum penile pump devices to create blood flow
- injections directly into the penis (such as Caverject Impulse®)
- penile prosthetic implants
- hormone therapy (rarely given)
- vascular surgery (rarely undertaken).

The first approach is to treat the underlying cause if one is identified. If no underlying cause is found, treatments to directly restore erectile function are used.

There are many treatments aimed at restoring erectile function. These can be grouped according to their level of invasiveness, being:

- non-invasive treatments
- minimally invasive treatments
- surgical treatments.

Doctors usually start with the least invasive treatment, such as tablets. If that doesn't work, they may suggest more complicated injection treatments or surgery.

Unproven Claims for Treating Erectile Dysfunction

Many products available 'over the counter' or via the internet claim to treat or even cure erectile dysfunction. These products are often expensive and usually have not been adequately tested for either their side effects or results.

There have been cases of serious health consequences from use of 'erection therapies' obtained online. Treat such products with caution and use only under the supervision of a doctor.

The treatment of erectile dysfunction caused by the eating of Giant Spider Crabs is simple. Do not eat them!