

CDC's 'Nightmare Bacteria' Reveals Need for Natural Medicine

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Globally, great fear has been generated by the CDC Director's recent description of a "Nightmare Bacteria" resistant to all medications, capable of killing 1 in every 2 people whose blood becomes infected with it. But isn't the primary problem that the drugs aren't working, and that natural medical solutions are needed now more than ever?

According to a recent CDC report titled, Lethal, Drug-resistant Bacteria Spreading in U.S. Healthcare Facilities, drug-resistant germs called carbapenem-resistant Enterobacteriaceae, or CRE, are on the rise and resistant to all, or nearly all of the antibiotics within the conventional drug armamentarium.

The CDC describe CRE bacteria as a "triple threat":

Resistance: CRE are resistant to all, or nearly all, the antibiotics we have - even our most powerful drugs of last-resort.

Death: CRE have high mortality rates – CRE germs kill 1 in 2 patients who get bloodstream infections from them.

Spread of disease: CRE easily transfer their antibiotic resistance to other bacteria. For example, carbapenem-resistant klebsiella can spread its drug-destroying weapons to a normal E. coli bacteria, which makes the E.coli resistant to antibiotics also. That could create a nightmare scenario since E. coli is the most common cause of urinary tract infections in healthy people.

Tom Frieden, MD, MPH, Director of the Centers for Disease Control and Prevention, generated quite a bit of alarm by referring to CRE as "nightmare bacteria":

CRE are nightmare bacteria. Our strongest antibiotics don't work and patients are left with potentially untreatable infections. Doctors, nurses, hospital leaders, and public health, must work together now to implement CDC's "detect and protect" strategy and stop these infections from spreading. [emphasis added]

'Nightmare Bacteria' or Rude Intellectual Awakening?

Truly this is a lesson in humility for the conventional medical system, and if the situation really is a "nightmare" as the CDC's Director describes, it will probably result in waking quite a few folks up, who despite appearing to have been awake were actually slumbering -- at least in the intellectual sense.

Drug resistance – an increasingly prevalent phenomena, whether we are talking about infection or cancer – is proving to the world that, except for emergency medicine and other rare exceptions, the drugs really don't work as advertised – at least not if the goal is to save lives. Suppressing or "treating" symptoms often results in turning acute health conditions into chronic ones, compounded by the subsequent poisoning by a battery xenobiotic (foreign to our biology) medications.

The fact that the majority of the drugs used as part of the conventional medical standard of care are xenobiotic petrochemical derivatives rarely gets acknowledged. Folks are being massively, collaterally poisoned in the war against germs and symptoms, and it is the "pathogens" and "diseases" that are being blamed and not our misguided effort to use poisons to fight conditions, most of which, if not being caused by poisoning or nutrient deficiencies and incompatibilities, are at least major contributing factors to them.

Declaring Chemical War Against Bacteria Blows Back

The "last resort" antibiotics known as Carbapenems are in a class of β -lactam antibiotics, the most widely used group of antibiotics, which target bacterial organisms by inhibiting cell wall biosynthesis. This drug class was originally developed from thienamycin, a naturally derived product of *Streptomyces cattleya*. So, the inspiration behind it, like for most other classes of pharmaceuticals in existence today, was Nature. But, Nature equips her creations equally with defenses in the ongoing struggle for balance among species. Bacteria are increasingly resistant to Carbapenems, producing an enzyme called beta-lactamase (more specifically, metallo-beta-lactamase-1 (NDM-1)), which attacks the β -lactam ring within β -lactam antibiotics, reducing their antibacterial effect. The antibiotic resistant gene for NDM-1 is capable of being transferring horizontally between different bacteria, so it is spreading widely. Since NDM-1's first discovery in a Swedish patient of Indian origin in 2008, it has been detected throughout the world in countries such as Pakistan, India, Japan, Brazil, and the UK, US and Canada.

The CDC, and the conventional drug-based medical establishment it represents, is learning that chemical warfare against "germs" not only has severe limitations. In fact, it is actually creating even stronger, more resistant bacteria. MRSA, for instance, that terrible bogeyman of an infection, is an acronym for Methicillin-Resistant *Staphylococcus Aureus*. It actually emerged within the context of the overuse of methicillin and other penicillin-type antibiotics; meaning, it exists not despite of antibiotics, but because of them.

Bacteria are far more resilient than multicellular organisms such as us. We consider ourselves much "higher" on the evolutionary ladder, but many strains have actually evolved capabilities that we do not have, such as degrading pesticides and chemicals like BPA for us. In fact, some unicellular organisms have even developed ways to use deadly radioactive waste (uranium-238) as an energy source! When we expose ourselves to chemotherapy (yes, antibiotics are chemical therapies), the subpopulation within that bacterial colony that are resistant to these chemicals actually thrive, as competing organisms have been destroyed, and our own bacterial-mediated (probiotic) immune defenses decimated.

Even when you kill 99.99% of an infection, the .001% that develops resistance becomes several orders of magnitude more resistant to the original chemical that it survived. With time it will come back with a vengeance, assuming the predisposing factors associated with infectious disease susceptibility, e.g. nutrition, chemical exposures, stress, have not been rectified. Also, the chemicals themselves produce selective pressure upon the bacterial colonies, generating new strains of bacteria capable of overcoming chemical annihilation by expressing multidrug resistance genes.

The end result? Massive collateral damage: destruction of our largely probiotic-mediated innate and adaptive immune response to infection, chemical poisoning of the host, and the production of "super germs" within the bioreactor of the human alimentary canal. This is very similar to what happens with chemotherapy/radiotherapy cancer resistance, cancer expressing genes and behaviors that are pre-metazoan in quality, not unlike bacteria and bacterial colonies [see Paul Davies, Charles Lineweaver's *Metazoa 1.0: taping the genes of ancient ancestors*].

Drug-Based Medicine Humbly Bows to the Earth

Widespread drug resistance marks the end of a certain type of cavalier, medical hubris, and the start of authentic humility within the medical culture. Not only is the conventional medical establishment throwing up their hands in surrender against the "simplest" of organisms – germs – but they are being forced to return to Nature for instruction.

The word humility comes from the word humus, or "earth," and indeed, it is the earth which teaches us how to maintain our health. Take a recent study published in the Korean Journal of Physiology and Pharmacology titled, Anti-inflammatory and anti-superbacterial activity of polyphenols isolated from black raspberry, which found that the root of the black raspberry plant contains polyphenols which are lethal to methicillin-resistant *Staphylococcus aureus* (MRSA), carbapenem-resistant *Acinetobacter baumannii* (CRAB), and *Bacillus anthracis* (Anthrax). The black raspberry fruit did not exhibit these properties.

Why the root and not the fruit? The reason is that plants have actually designed their fruits to be eaten by specific species, and therefore are not as well armed against the same microbial threat that we humans also face interacting with the wild environment. Roots, on the other hand, are designed to enter directly into the soil, and derive nutrients directly through rhizomal interaction, which requires both a certain degree of permeability, and therefore extra chemical defenses. We discovered a similar process at play in the production of the defensive lectin compound in wheat known as wheat germ agglutinin (WGA) within the root tip and leaf tip of the sprouting wheat berry. WGA also has antibacterial, antifungal, anti-mammal, and yes, anti-animal/human properties as well.

So, if the humble raspberry plant can produce antibacterial compounds capable of killing carbapenem-resistant *Acinetobacter*, could it also kill the CDC's nightmare pathogen, carbapenem-resistant *Enterobacteriaceae*? Since both bacteria are members of the class Gammaproteobacteria in the phylum Proteobacteria, it is definitely possible.

Basic Foods and Spices Found To Kill "Super Germs"

How many other natural, plant compounds are capable of this seemingly impossible feat of killing drug- and multi-drug resistant infections? The research on MRSA is encouraging. At GreenMedInfo.com we have indexed 49 natural compounds thus far with experimentally confirmed anti-MRSA properties, listed in alphabetical order below:

- Allicin (Garlic compound)
- Baicalein (Chinese Skullcap compound)
- Banana (Peel extract)
- Bay leaf
- Bee propolis
- Bifidobacterium breve (A probiotic)
- Catechin (antioxidant found in Acacia catechu and tea)
- Catnip
- Cinnamaldehyde (Cinnamon oil compound)
- Clove
- Cumin
- Curcumin (Primary polyphenol in Turmeric)
- EGCG (Polyphenol in tea)
- Elecampane
- Epicatechin (Polyphenol in tea)
- Eucalyptus
- Geranium
- Grapeseed Extract
- Grapefruit Seed Extract
- Honey (Ulmo)
- Kaempferol
- Lactobacillus paracasei (bacteriocin)
- Lavender
- Lemongrass

- Mango Seed
- Mangosteen
- Manuka Honey
- Nigella sativa (black seed)
- Norway spruce
- Olive leaf extract
- Tabebuia
- Peppermint
- Prickly Ash
- Resins
- Sage
- Sandalwood
- Silver (nanoparticles)
- Tea Tree
- Thyme

You can view all of these study abstracts without registering at GreenMedInfo.com's MRSA research page.

Other examples of so-called "nightmare" bacteria, which natural compounds have been found to kill, include:

- Multi-drug Resistant Tuberculosis (billed by the media as "The White Plague"): A 2011 study found that garlic has is able to kill this particularly resilient mycobacteria.[i]
- Drug-resistant Urinary Tract Infections: A 2005 study found that grapefruit seeds were capable of reversing multi-drug resistant *Pseudomonas aeruginosa* urinary infection after two weeks of treatment in a male patient.[ii] Cranberry also appears to reduce the risk of urinary tract infections by inhibiting the biofilm formation typical of antibiotic resistant uropathogenic bacteria colonies.[iii]
- Drug-resistant Infected Nipple (Lactation): A 2010 study found that probiotics strains from breast milk are superior to antibiotics in the treatment of infectious mastitis.[iv]
- Drug-resistant *Helicobacter pylori*: A 2002 study found that the organosulfur compound in Cruciferous vegetables inhibits extracellular, intracellular and antibiotic-resistant strains of *H. pylori*, as well as preventing petrochemically-induced stomach tumors.[v]

- Multi-drug resistant *Pseudomonas aeruginosa*: A 2009 study found that pomegranate rind extract has antimicrobial activity against multi-drug resistant *Pseudomonas aeruginosa*.^[vi] Water soluble green tea has also been found to have significant inhibitory activity against multi-drug resistant *Pseudomonas aeruginosa*.^[vii]
- Multi-drug resistant *Acinetobacter baumannii*: A 2009 study found that fennel essential oil extracts had antimicrobial activity against multi-drug resistant *Acinetobacter baumannii*.^[viii]
- Multi-drug resistant *Streptococcus mutans* (oral pathogen): A 2007 study found that garlic inhibits multi-drug resistant *Streptococcus mutans*, a bacteria known to be a major contributor to dental caries.^[ix]
- Multi-drug resistant *Vibrio cholera* (cholera): A 2007 study found that Guava leaf extract and bark had activity against multi-drug resistant *Vibrio cholera*, the organism responsible for cholera outbreaks.^[x]
- Multi-drug *E. Coli*, *Klebsiella* and *Candida albicans*: A 2009 study found that Arabic tree, Cinnamon and Clove extract has antimicrobial activity against multi-drug resistant strains of *E. Coli*, *Klebsiella* and *Candida albicans* (yeast). ^[xi]
- Drug-resistant *Mycobacterium avium*: A 2003 study found that the exceptionally difficult to treat *Mycobacterium avium* was inhibited with juniper extracts.^[xii]

There are a wide range of chemistries (often over 1,000) working in concert within plants that were evolved in order to provide elaborate defense systems against the same pathogens that afflict humans. When used intelligently, with correct medical supervision, these natural compounds can literally be life-saving. I believe that we are on the precipice of a natural medical Renaissance, and that this transformation is occurring by sheer necessity as one drug after another fails to produce the expected outcome. Drug and multi-drug resistant diseases are a sign of this, a healing crisis if you will, which if properly understood and responded to, will result in us arriving at a much better place.

As you can see by the studies cited above, Nature provides solutions that are often superior to results obtained by drugs – and these are increasingly being confirmed by "evidence-based" medicine. Truly, the fact that we are alive here today is a direct result of pre-modern cultures, the world over, using used plant medicines to stay healthy. If we are to remain here, especially in face of an increasingly impotent and incompetent medical system, we may have to rediscover them once again.

Resources

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